

Bloomberg Businessweek

Jeff Immelt may
return GE to
a glory it hasn't
seen since me

p54

The 124 Year Old Startup

Did someone
say my name?



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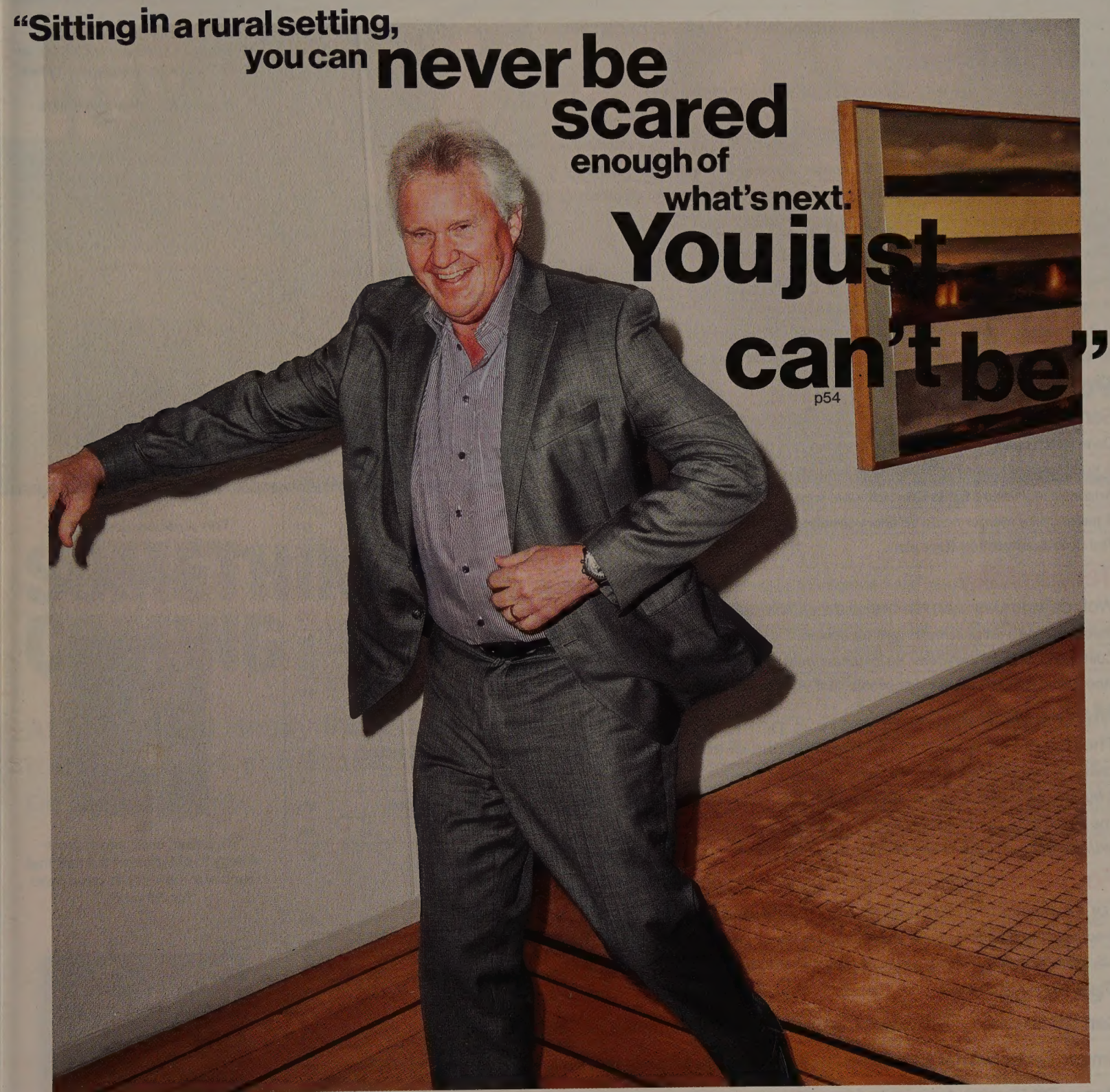


FRANCE IS IN THE AIR



OUR WORLD REVOLVES AROUND YOU

Welcome to our Business Class, where your comfort is our priority.



"If I said all people with a law degree are worthless, what would you say?"

p49

"My message to members of the legislature that do want to micromanage cities...is, if you really feel that strongly, run for mayor. It's a great job"

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"Sometimes you get 2G, sometimes you get 3G, and sometimes you get no G"

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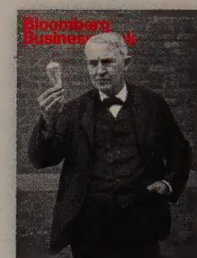
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"The cover story is on GE. Its current CEO, Jeff Immelt, is trying to reinvigorate the company by focusing on software for industrial-scale machines like plane engines."

"Interesting. When were GE's glory days?"

"The company was mythic under Jack Welch. Also the period after Thomas Edison founded it was quite innovative."

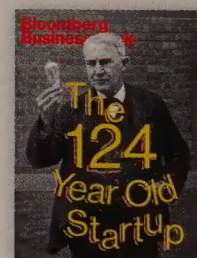
"The lightbulb is a tough act to follow."



2

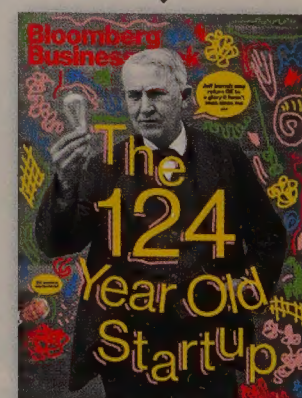
"This would be perfect if we were Smithsonian magazine."

"It just needs a headline."



3

"It's better, but it needs more energy to balance off the fact that our cover subject has been dead for 85 years."



4

"What do the squiggles mean?"

"This is what youthful energy looks like. Don't worry, we researched it for accuracy."



SOMETHING'S COMING

At Mitsubishi Heavy Industries, there's always something new on the horizon.

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The MHI Group's diverse business domains allow us to achieve synergies in manufacturing across a wide range of product categories. Offering everything from engines, turbochargers, and compressors to machine tools, agricultural machinery, and other equipment, we support industrial development and manufacturing productivity on a global scale.

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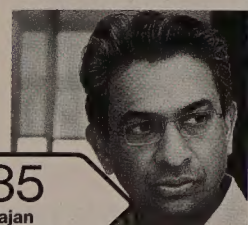


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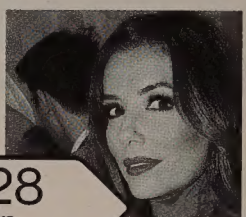
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SIZE MATTERS

WHETHER THEY'RE GETTING THE RED-CARPET TREATMENT IN COZY COUNTRIES OR LARGE LIE-FLAT SEATS, BUSINESS TRAVELERS HAVE MORE OPTIONS THAN EVER BEFORE

Planning business events and travel itineraries is usually about extremes. You want the biggest potential attendance, the shortest flight, the largest seat, the closest hotel and the most profitable impact for the effort, time and expense. It's a quest to find the size that pays off most.

A tip: Thinking small in venue but big in comfort can save you money, time and fatigue—and that can yield a better return from any travel investment, whether you're crossing the state or the globe.

Small Wonder Nestled Between the French and Italian Rivas

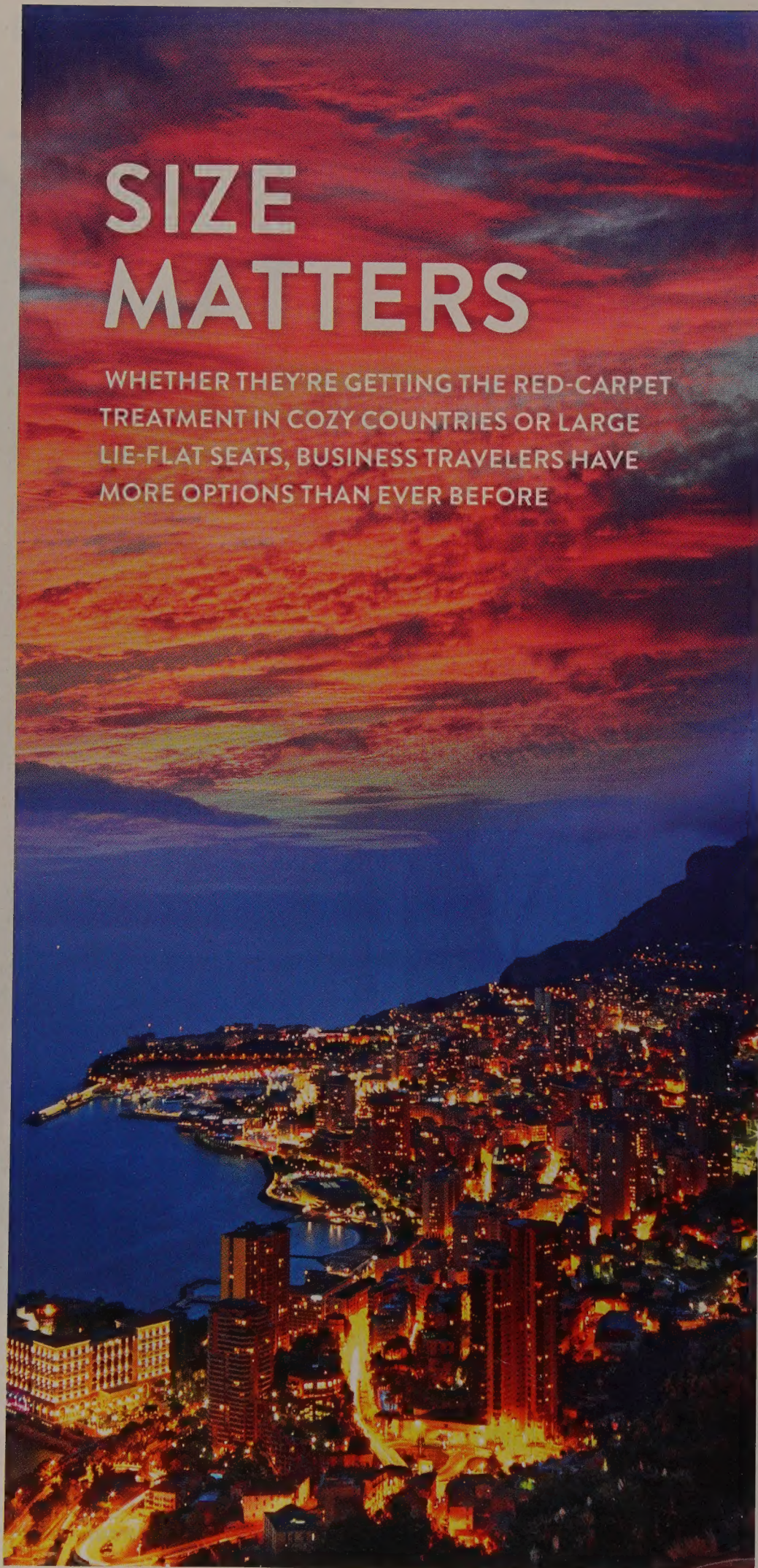
Finding the perfect venue to host a business event is like finding the perfect partner. If you can mix effortless cooperation, breathtaking looks and serious talent for both work and play into one package, you've hit the jackpot. Hundreds of cities will beckon you while you're hunting, but only one country delivers all of these qualities—and it's been famous for its glamour and attentive service for over 150 years.

Monaco has long been a premier destination for business, but in recent years the tiny Principality has invested heavily in transforming its lively three-quarters of a square mile into a modern mini-mecca for world-class events.

The beauty of the French Riviera and the legendary pleasures of Monaco are a perfect brand fit for many companies seeking an upscale venue for everything from world congresses to board meetings to product launches. The big value-add in this tiny sovereign nation (the second-smallest in the world, behind Vatican City), however, is its logistical convenience and cost-effectiveness.

"One of the unique things about Monaco is its accessibility," says Cindy Hoddeson, Director of Meeting and Incentive Sales in Monaco Government Tourist Office, who notes its location 14 miles from Nice Côte d'Azur International Airport and convenient connection to the European rail system.

The Principality offers 2,400 sleeping rooms in elegant venues like the signature Hotel de Paris—which dates to 1863—along with modern options like the Monte Carlo Bay Hotel and Resort, which opened in 2005. All are within walking distance of



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main centers like the iconic Grimaldi Forum Monaco. "This not only saves time, but also money, because expensive transfers to a venue aren't needed," notes Hoddeson. "And incentives like a complimentary welcome reception or free helicopter use for attendances at certain scales can also eliminate event costs."

Other factors of growing importance—such as Monaco's superlative reputation for safety, governmental stability, economic health and use of the Euro while retaining neutrality outside the European Union—are making it increasingly attractive to business leaders. Certain industries even enjoy special advantages; Monaco is one of just two European countries that allow insurance companies to reclaim value-added tax.

"We often lightheartedly say, 'When you're seeking a venue, we offer you a country,'" says Hoddeson. "When you hold an event here, you're essentially taking over the country. The Principality is smaller than New York's Central Park, so all the players involved in your event, from the convention centers to the hoteliers, can work closely together to make sure you receive the highly individualized services you'd find in a boutique destination."

Throw in a climate like that of Southern California, and it's no mystery why many annual events have graced Monaco since long before Grace Kelly was born. Just a few examples: Interpol held their first meeting here in 1914 and recently returned in 2014, the same year the International Olympic Committee convened in Monaco. Les Rendez-vous de Septembre, a

conference for reinsurers, is celebrating its 60th anniversary this year, and the annual Monte Carlo TV Festival has run since 1961. Other recurring events include Sportel (for global sports media professionals), Luxe Pack (creative packaging), Ernst & Young's World Entrepreneur of the Year™ Forum and dozens more.

For after work—and before the real play begins—there are more than 170 restaurants, with six Michelin-starred spots including the legendary three Michelin-starred Le Louis XV—Alain Ducasse at the Hotel de Paris and Joël Robuchon's one-star Japanese restaurant Yoshi. Want to see how some of the other appetites for exquisite living are sated? Swing by during the annual Monaco Yacht Show this September.

Fly High—and Flat

Regarding that pre-venue space you'll occupy for six to 22 hours before you arrive at your destination, bigger is always better—when it doesn't break the expense report. Obviously, how well you work and rest during a flight can determine your effectiveness when you land. Seats that tilt back even as much as 20 degrees will, at best, simulate a fitful night's sleep on your living room recliner—only next to a stranger. Fortunately, some airlines are creating better alternatives.

Japan's All Nippon Airways (ANA) offers business class passengers seats on all nine of its North American routes (including Vancouver, excluding Honolulu) that can become fully flat. In addition to comfortable sleeping, they provide privacy and assist you in working, relaxing or enjoying

your preferred entertainment. What's more, these fully flat seats are staggered, so each has the full accessibility and freedom of an aisle seat. They provide 50 percent more space than conventional arrangements, and no other guest will be directly next to you. When you're on a 14-hour flight from New York—or eight other North American destinations—to Tokyo, that kind of comfort matters.

The inflight food can affect your mood, too, not to mention your health if you're a frequent globe-crosser. To give their guests a special culinary experience, ANA partners with many world-famous chefs, restaurants and hotels to create menus, dishes and occasionally cocktails especially for their business class passengers. Since starting their collaboration programs in 2013, ANA has partnered with some of the finest gastronomic luminaries and establishments in China, Hong Kong, India, Los Angeles, New York, Taiwan, Thailand and Singapore.

New York, initiated earlier this spring, is the most recent addition. For these flights, the airline is collaborating with the executive chef of Atrio, the well-known Mediterranean restaurant in the Conrad New York. Guests who take one of two daily flights from New York's JFK Airport and Tokyo will enjoy three-course meals designed by chef Antonio Cardoso, with fare such as beef tenderloin, roasted branzino and Moroccan rubbed swordfish.

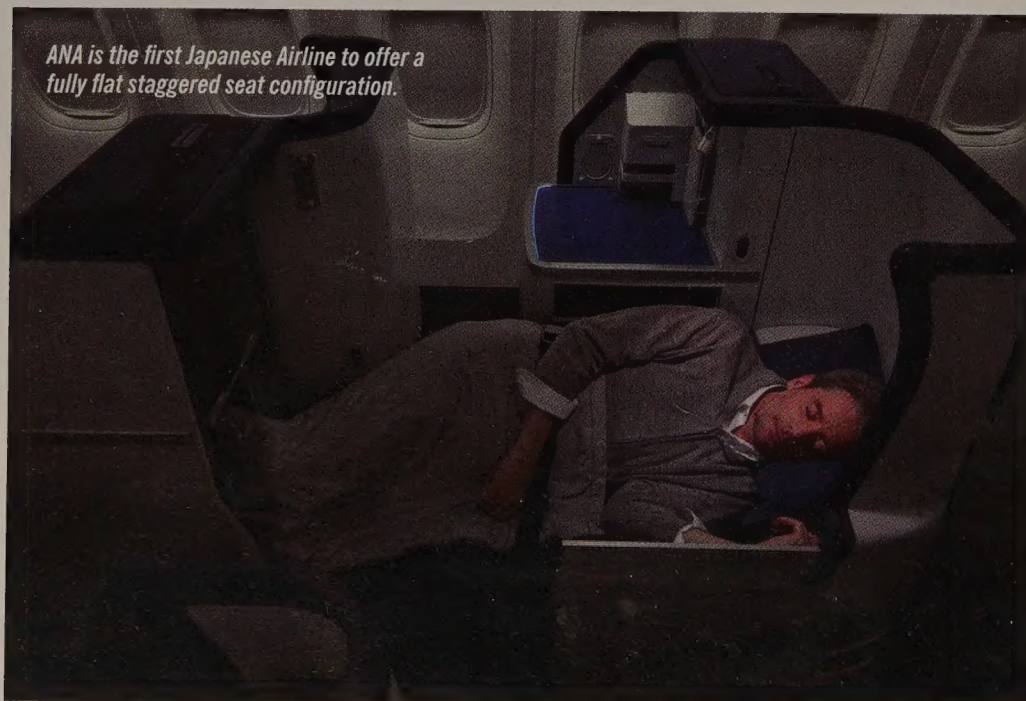
Cardoso even created a drink that can only be found on these flights, the Conrad Gin Rickey, which can be sipped as passengers enjoy a jazz playlist also curated by the hotel.

"Marking the 25th anniversary of our Tokyo-New York route with this very special food and beverage collaboration is a great way to honor the legacy of ANA while demonstrating our continued commitment to providing unparalleled inflight experiences," says Hideki Kunugi, ANA's Senior Vice President of the Americas.

This ever-improving repertoire of amenities has made ANA the only airline out of Japan's six international carriers to receive the top 5-star rating for four consecutive years from Skytrax, a leading organization for airline and airport quality reviews.

An excellent three-course meal might not shave six hours off of a work flight, but it can make one of those hours a veritable delight. When you're thinking big about making business travel more pleasant and productive, it's the little things that can mean a lot. — Ron Geraci

ANA is the first Japanese Airline to offer a fully flat staggered seat configuration.



Opening Remarks

Cuba's Cold Shoulder

By Patrick Symmes

The U.S. president's mission to Cuba, which has spun itself into a hurricane of diplomatic and cultural expectations, is due ashore on March 21. Barack and Michelle Obama will tour Old Havana's cobblestone alleys, meet with revolutionaries and anti-revolutionaries, and possibly go as far as shaking the hand of an ancient, trembling, and all-powerful king.

That would be Mick Jagger, who is scheduled to perform at an outdoor concert with the band known as Los Rolling in the official Cuban media. Half a million fans are expected. The first American presidential visit to Cuba in 80 years will also include nine innings of baseball diplomacy, as the Tampa Bay Rays play the Cuban national team in the first exhibition game in 16 years.

For the U.S., the trade and economic benefits of Obama's attempt to normalize relations with the island are obvious: Cuba was once a major importer of American farm and industrial products, linked to the economies of New Orleans and Tampa by ferry, and flooded with state-of-the-art Buick Straight Eights, circa 1952. Obama has carved out exceptions to the 55-year embargo—including, on March 15, allowing U.S. citizens to visit Cuba individually, instead of in groups, and giving Cuba access to the international banking system. But only Congress can lift the whole thing.

Raúl Castro, 84, now the island's president and more pragmatic than his retired brother Fidel, 89, recognizes that Cuba must create millions of jobs for its restive young people and can't afford to pay for that itself. He'll probably ask Obama for billions of dollars in investment and an end to the embargo.

Despite the hoopla, little has happened to expand commerce since Dec. 17, 2014, when Obama announced that the U.S. was reestablishing ties with Cuba. The road ahead will test how intransigent Cuba's monopoly state enterprises are in the face of change. (The Ministry of Labor still keeps an official list of who's allowed to work as a birthday clown.) Inertia and socialist doctrine continue to support a closed economy. The entire point of the Cuban Revolution was to keep America out. Pivoting the island from central planning and state monopolies to an open economy engaged with the U.S. won't be easy.

When Obama revealed his secret negotiations, he said that "increased commerce is good for Americans and for Cubans" and specifically urged telecom

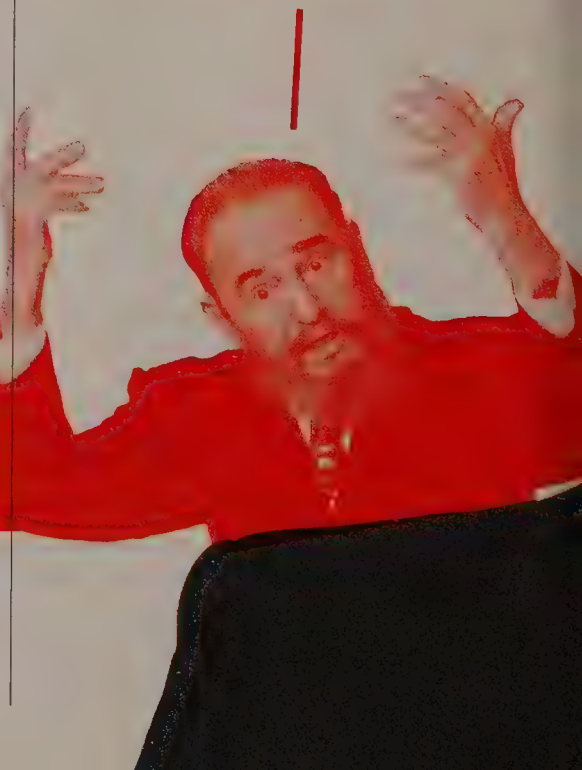
companies "to sell goods that enable Cubans to communicate with the United States and other countries." The White House cited tourism, shipping, and app development as areas where U.S. companies were now free to seek deals.

There have been more than 500 trade missions in the subsequent 15 months, with little to show for the effort. "There are no success stories," says John Kavulich of the U.S.-Cuba Trade and Economic Council, a nonpartisan business-focused nonprofit in New York. One U.S. company—two men from Alabama—did sign a deal to assemble at the port of Mariel small tractors specially designed for Cuban cooperative farmers.

Cuba is playing the field, negotiating with American telecom executives on a trade visit, then buying the equipment cheaply from China. Cuba asked for bids from U.S. companies on rewiring the tourist-centric zone of Old Havana. It then hired a Chinese company. And it's not just China, already a trade partner, that Havana has turned to. When U.S. tourism companies came calling, the European Union offered hundreds of millions of dollars in debt relief in exchange for renewing its deals running local resorts.

Despite U.S. overtures, the island's entrenched socialists remain intransigent about trade

Revolució



U.S. airlines don't have regularly scheduled flights to Cuba—and probably won't anytime soon. A civil aviation agreement in February has already stumbled over reciprocity: Allowing Cuba's aging, unsafe airliners into U.S. airports is problematic, especially since many are flown by Cuban air force pilots. And that licensed, authorized, widely reported done deal for a ferry to the island from Key West? Not happening. Carnival Cruise Line signed a memorandum with Cuba, outfitted and staffed a 704-passenger ship, and hinted that it could make Cuba the center of its entire Caribbean operations. The Cubans have stalled by not forming a corporate partner, have demanded from Carnival massive investments in their ports, and let deadlines for the first sailings float away.

From the Obamas' arrival to the Stones' departure, the capitalist invasion will likely produce a raft of new deals, signed declarations, and promises. Nothing will move quickly, however. "They're dragging their feet partly because they feel it's putting pressure on the U.S. to lift the embargo," says Timothy Ashby, an attorney and former deputy assistant secretary of hemispheric affairs who's negotiated

with the Cubans recently for several U.S. corporations.

But the Cubans will come around at the last minute, Ashby believes, because the best partner they could ask for is leaving office in 10 months. "What Cuba wants is large-scale direct investment," he says. They need billions of dollars just to rebuild the port of Havana and want access to the World Bank for major infrastructure projects across the island. They want big American hotel companies to operate and invest in Cuba. "They're keen on branded," Ashby says. "They want Marriott and American Airlines."

The Cuban leadership, under Raúl Castro's direction, appears to be looking for a way it can attract U.S. and foreign investment and still keep its brand of socialism—probably borrowing Vietnamese-style private capitalism and strict political control. Kavulich says Raúl will surrender as little as possible but will ultimately have to change the country to survive.

For now, economic reforms on the island allow small businesses—repairmen and restaurants, for example—to exist. That's not going to be enough to help the millions of Cubans who

Cuba is playing the field, negotiating with Americans, then buying from China

remain essentially unemployed. Cuban Americans have been pouring money into the island, investing in their cousins, and Kavulich estimates that Raúl will push the majority of workers into the private sector within a few years. That transition will be more efficiently done with American business involvement than without.

Normalizing relations with Cuba was never predicated on "we do X, you do Y," says Ben Rhodes, the deputy national security adviser who led the Americans in the secret talks that resulted first in reopening embassies, then to changes in parts of the U.S. trade embargo, and now to the chance for a presidential drop-by at the legendary El Floridita bar for a daiquiri. In an interview marking the December anniversary of Obama's announcement, Rhodes spelled out the president's policy in greater detail. The American goal is to effect "greater engagement between the Cuban people, the U.S., and the rest of the world, greater commercial activity that improves lives, empowered by more information. By definition, over time that is going to have an effect in terms of the state of democracy in Cuba."

As the Castro regime tries to figure out the speed and depth of reform and engagement with its huge capitalist neighbor, the U.S. government can do little things to encourage trade, such as approve imports of Cuban cigars, coffee, tropical fruits, and agricultural products. So far, little of that has been done. "Normalization connotes bilateral trade," says Robert Muse, an attorney who's lobbied for Cuban brands. "Where are the U.S. rule changes to permit imports from Cuba?" There may be one harbinger: the surprise decision by the Treasury Department to grant a license to import Havana Club rum, which my research has affirmed to be of peerless quality.

Until Congress lifts the entire embargo, modest commercial steps may be the most effective way that trade can help bring about change in Cuba. Fidel Castro famously said that history will absolve him; if given the chance, capitalism may dissolve him. A Cuban loyalist and former revolutionary fighter told me back in 1991, "The day the embargo ends, we are done for." **B**



CAPITALISM

The Next Big Crash Coming Up for Detroit

The industry must end its dependence on sales of gas-guzzling light trucks and subprime loans



It's true, as Hillary Clinton boasted, that 2015 was "the best year that the auto industry has had in a long time." Americans bought 17.5 million cars last year, breaking a 15-year record. But these rosy sales figures hide an alarming truth: The boom is being fueled by many temporary factors that could put automakers in the same vulnerable position they found themselves in seven years ago.

The most obvious of these is the price of oil, which dropped below \$30 a barrel by the end of last year, lowering the pump price by nearly a dollar since 2014. While low gas prices don't necessarily lead to increased auto sales, they do influence the type of vehicles Americans buy: pickups and SUVs rather than fuel-efficient sedans. The current sales boom has been driven almost entirely by such light trucks. When oil prices inevitably rise again, the same SUV addiction that laid U.S. carmakers low in the 2000s could threaten them again.

Car loans are another red flag. Consumers have been able to afford them largely because interest rates are low, but these rates, like oil prices, can be expected to rise. The automakers' finance operations have also become increasingly dependent on the subprime market; almost one out of five new auto loans are being made to borrowers with low credit ratings. Lending money at high rates to people who may not be able to repay is a recipe for disaster, as the housing bubble demonstrated. Delinquencies on subprime car loans that have been bundled into bonds have already risen to 4.7 percent, the highest rate since 2010.

What's more, automakers have been goosing sales by offering ever-longer loans with lower payments, pushing leases that count as "sales," and dumping sedans onto rental car companies and other bulk buyers. Last year these low-margin fleet sales rose more than 6 percent—helping companies meet federal goals for fuel economy in spite of growing light-truck sales.

Despite these danger signs, the auto industry can avoid

another crisis—if it positions itself for economic headwinds and for the technological change that stands to radically reshape the car business.

Mostly this is a matter for the automakers themselves, of course. They should, for instance, invest in more flexible production systems, as their German and Japanese competitors have. Detroit also needs to better prepare to compete on both electrification and autonomous vehicles.

The government's role should be to stand firm against industry efforts to exploit loopholes and water down fuel-economy standards when they're reviewed next year. It should pressure automakers to plan for bankruptcy or restructuring in the event either one is needed. Neither General Motors nor Chrysler had such living wills before taxpayers bailed them out in 2009.

A U.S.-Canada Climate Deal Falls Short

More has to be done by the two governments to stave off devastating global climate change

When the U.S. and Canada get together to fight climate change, they ought to be able to make a difference. But the joint effort they announced on March 10 to reduce methane emissions was underwhelming.

Methane emissions from oil and gas production—which the two countries agreed to cut by as much as 45 percent in a decade—make up less than 3 percent of total U.S. greenhouse-gas emissions and about 6 percent for Canada, according to Bloomberg Intelligence. And while both countries set much bigger goals in Paris last year—the U.S. pledged to cut greenhouse-gas emissions by 26 percent in a decade; Canada promised a 30 percent reduction in 15 years—neither has put in place a full set of policies to meet them. Even if they did, the reductions would fall far short of what's needed to prevent devastating climate change.

So what could the countries do to make more of a difference?

In the U.S., the best policy would be to impose a revenue-neutral carbon tax. Yet the current Congress would make this all but impossible. President Obama's workaround is the Clean Power Plan, which moves the energy sector toward low-carbon fuel sources. Ideally, his successor will endorse this strategy and expand on it—for example, by investing more in nuclear power.

Canada has further to go. It's made less progress than the U.S. in cutting emissions, and the declining fortunes of its oil and gas industry have reduced public appetite for ambitious change. Yet Prime Minister Justin Trudeau enjoys two distinct advantages: Canada's political system allows a government with a majority of seats in Parliament to pass legislation with no support from the opposition, and the most populous provinces have already adopted or announced plans to put a price on carbon. The challenge is to combine those initiatives into a national approach that generates meaningful greenhouse-gas reductions. **B**

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March 21 — March 27, 2016

A Capital Mystery

► Investing in factories and equipment is weak

► “We wanted flying cars, instead we got 140 characters”

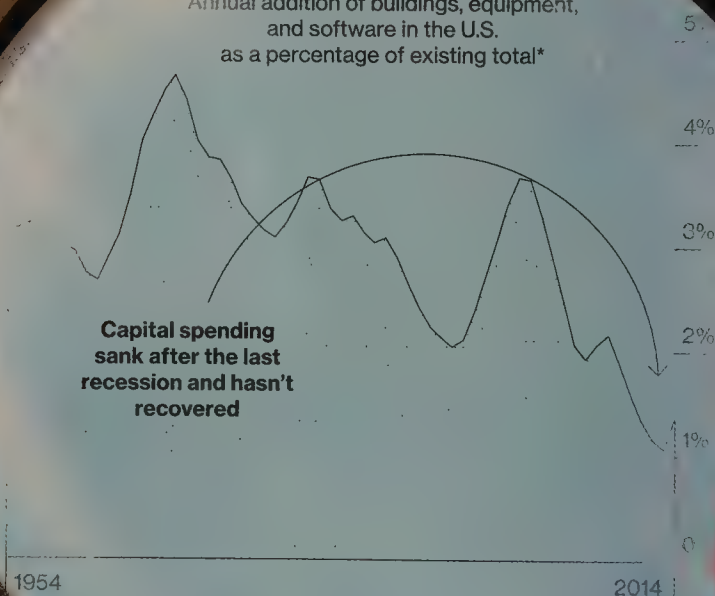
The public is in a foul mood this campaign season, in part because living standards have stagnated. The median household income in January was slightly lower, adjusted for inflation, than it was in January 2000, according to Sentier Research. Pay is lagging partly because companies have been underinvesting in the tools that workers need to be more productive. Those tools, which range from machines to software to land and buildings, are collectively known as capital.

The chart under the magnifying glass shows that companies are adding to the national stock of capital at an historically slow pace. In a separate calculation, the U.S. Bureau of Labor Statistics says that what it calls “capital intensity”—the ratio of capital used to hours worked—was so weak that it actually subtracted from workers’ productivity from 2010 through 2014.

Economists and policymakers agree this is happening. They disagree on why. So put one of these theories in your pipe and smoke it, Sherlock. —*Peter Holmes Coy*

Business Cuts Back

Annual addition of buildings, equipment, and software in the U.S. as a percentage of existing total*



Capital spending sank after the last recession and hasn't recovered

*INVESTMENT IN PRIVATE, NONRESIDENTIAL FIXED ASSETS, NET OF DEPRECIATION, AS A SHARE OF EXISTING STOCK; EACH POINT IS AN AVERAGE OF THE TRAILING FIVE YEARS; DATA: BUREAU OF LABOR STATISTICS

People Are Too Frugal

Companies have no need to bulk up because nobody's buying. Former Treasury Secretary Lawrence Summers argues that the amount of money people want to save is greater than the amount companies want to invest. That's reflected in the

0.78%

yield on 10-year Treasury notes, adjusted for inflation, as of March 16.

Prime Suspects

Xi Jinping jockeys for position—in China's history books 16

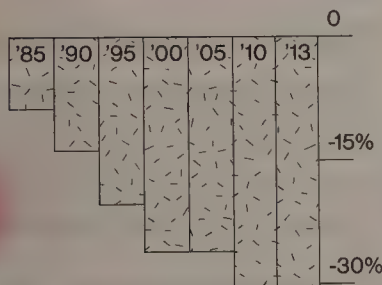
An inflation tracker powered by e-commerce 18

Europe's workforce dropouts are growing in number 16

Argentina bets big on bankers 18

Equipment Is Cheap

This chart shows the percentage decline in the prices of investment goods compared with consumer goods since 1980.



Low prices let companies spend a smaller share of their revenue to buy what they need.

Taxes Are Too High

Many Republicans say the key to increasing capital spending is to lower the corporate income tax. They note that

\$2.1t

of U.S. corporate profits were held overseas at the end of 2014. Lower rates, they say, would encourage American companies to use some of that money at home.

Nearsighted Investors

Last year, Hillary Clinton said:

"We need a new generation of committed, long-term investors to provide a counterweight to the hit-and-run activists."

She wants to raise capital-gains taxes on assets held for one to six years to encourage people to hold stocks longer.

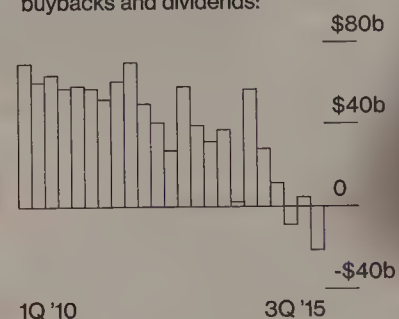
Not Enough Innovation

Today's robots and 3D-printing are no match for the great inventions of the past, like air conditioning and jet engines, says Robert Gordon of Northwestern University. As venture capitalist Peter Thiel famously put it:

"We wanted flying cars, instead we got 140 characters."

The Buyback Bonanza

Bernie Sanders says companies are paying off their wealthy shareholders instead of putting money into growth opportunities. This chart from Standard & Poor's shows S&P operating earnings minus buybacks and dividends:



The number has dipped below zero recently. That means companies aren't reinvesting in their businesses.

Bottom Line

On March 16, the Federal Reserve's Federal Open Market Committee said the U.S. economy is expanding moderately:

"However, business fixed investment and net exports have been soft."

Propaganda

The Real Meaning of Xi's Favored Slogan

► Reform and party discipline are dominant themes

► "Every leader tries to come up with his trademark"

"Have you heard of the Four Comprehensives?" a kindly-looking man asks a pigtailed girl with huge eyes, in a cartoon video released by China's official Xinhua News Agency on Feb. 2. "Is it something to do with the Chinese Dream?" she responds. "Ha-ha, well, let me tell you," he says, before launching into an explanatory rap while they walk through a psychedelic landscape, complete with a swinging monkey, tigers in cages, rocket ships, hot air balloons, and backup disco dancers including a nurse, farmer, construction worker, and soldier.

The Four Comprehensives—promoting prosperity, deepening reforms, strengthening rule of law, and stressing party discipline—are President Xi Jinping's contribution to a tradition of Communist Party leaders coining slogans. Deng Xiaoping popularized the Four Modernizations, and later came up with Deng Xiaoping Theory; former President Jiang Zemin gave China the Three Represents. During the National People's Congress, the Four Comprehensives were cited—alongside the slogans of Deng, Jiang, and former President Hu Jintao—by Premier Li Keqiang when he gave the annual report on the state of the country on March 5.

After leaders "come to power, the slogans become very important in policymaking," says Ding Xueliang, a professor of social science at the Hong Kong University of Science & Technology. "And every leader tries to

come up with his trademark to show he belongs at the top." As Sun Yinhan, vice chairman of the All-China Federation of Industry and Commerce, said in a news conference in Beijing on March 11, "It clearly points the way for the future direction we should take."

The Four Comprehensives take on China's biggest economic and political questions. At the same time, they reflect tensions in the party and society. Achieving moderate prosperity is a sensible goal. But in China that means a continued fixation on excessively rapid growth, with ever higher debt and zombie companies the cost. Reforms, as Xi sees them, mean more support for state-owned companies, not less, says Willy Lam, a professor at the Chinese University of Hong Kong

and author of *Chinese Politics in the Era of Xi Jinping*.

There are legitimate efforts to improve the legal system. But with Xi fixated on ideological control, deepening the rule of law also means smothering dissent, says Kristin Shi-Kupfer, head of research for politics, society, and media at the Berlin-based Mercator Institute for China Studies. Promoting party discipline, she says, includes both the crackdown on cor-

ruption and the silencing of members who think Xi has gone too far in censoring opposing views.

Shortly after taking power in 2012, Xi introduced the "Chinese Dream" of national rejuvenation and a better life for all. Lately he seems to have favored the Four Comprehensives instead. Another slogan, "Xi political economics," is being promoted: It's a grab bag of all of his theories on the economy and politics.

Xi needs to cement his authority before next year's National Congress of the Communist Party of China, a twice-a-decade assembly where top party members are replaced. "Xi's PR people are building up his personality cult in preparation for the 19th Party Congress, where presumably he

will appoint more of his people into the central committee and politburo," says Lam. The true meaning is that all policies must "reflect the leadership of the party and the top position of Xi Jinping," he adds. "That is [the slogan's true] meaning." If Xi is successful, the Four Comprehensives could be enshrined in the party constitution when he most likely steps aside as party leader in 2022. —Dexter Roberts

The bottom line The Four Comprehensives could help the Chinese president consolidate power before the Party Congress.

Labor

Discouraged Workers Dog Europe's Recovery

► Some working-age Europeans have rarely, if ever, held jobs

► "After so many years, I cannot sell myself in any way"

Europeans finally seem to be going back to work: Euro zone unemployment has fallen from 11.9 percent to 10.3 percent over the past two years. But those figures mask a rise in the number of jobless Europeans who have given up looking for work, and thus aren't officially counted among the unemployed.

About 4.6 percent of working-age people—11.4 million in the 19-nation single-currency bloc—say they are "available to work but not seeking" a job. That's up slightly from the same period in 2013, according to the European Union's statistics agency.

Typically during periods of economic recovery, the number of so-called discouraged workers declines as people resume looking for jobs. In the U.S., some 1.8 million say they want to work but aren't looking, down from 2.5 million in 2010. But in Italy and France, as well as some smaller economies, the ranks of the discouraged are growing even as unemployment inches down. The problem is worst in Italy, where an estimated 4.5 million have quit job-hunting and outnumber the 2.7 million officially unemployed.

In Italy and elsewhere, years



"Say it with me, the Four Comprehensives!"



"The Chinese Dream is almost here"

of sluggish growth and high unemployment have created a pool of adults who've rarely if ever held jobs or have been out of work so long that their skills aren't marketable. "After so many years, I cannot sell myself in any way," says Maria Luisa Tegov, 52, who last worked in 2007 as a computer programmer specializing in an IBM operating system that later was discontinued. Tegov, who says she stopped looking for work two or three years ago, lives on her husband's income and occasionally works as a ticket seller at a municipal parking lot near her home in Venice. "I definitely don't need my IT knowledge and experience to do that," she says.

Some discouraged workers, like Tegov, get financial support from family members, while others scrape together a living from off-the-books jobs. Those solutions create other problems, says Giuseppe Ragusa, an economist at LUISS Guido Carli University in Rome. People who don't have legitimate jobs don't pay income taxes, increasing the burden on their taxpaying countrymen. Nor do they pay into public pension systems, which in Europe are already struggling to keep up with a rapidly aging population. What's more, many retirees now use their pension income "as a stipend for their sons and daughters who don't work," Ragusa says. Having two generations dependent on pension income makes it harder to build political support for badly needed pension reforms.

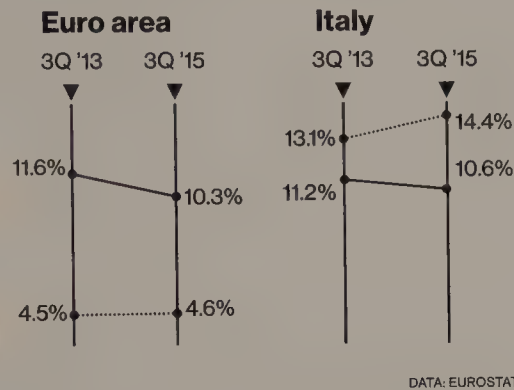
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Not all European

Europe's Hidden Jobless

More than 11 million Europeans are without jobs and have given up trying to find any. It's worst in Italy, where 4.5 million have left the workforce.

— Unemployment rate
— Ratio of discouraged workers to labor force



countries are afflicted equally by the discouraged-worker syndrome. In Spain the percentage of people who quit looking for work never exceeded 5.1 percent, even in the depths of the European debt crisis in 2013, when Spanish unemployment climbed to almost 27 percent. Since then, unemployment has fallen to 20.9 percent and the rate of discouraged workers is down to 4.4 percent.

A key factor in keeping Spain's discouraged-worker count low was its unemployment-insurance system, says Stefano Scarpetta, the director of employment, labor, and social affairs at the Organisation for Economic Co-operation and Development in Paris. Spain offers relatively generous unemployment benefits, covering more than 60 percent of a worker's previous income for as long as two

years—but in exchange, recipients are required to search actively for work. "One of the things we learned from the crisis was, even countries that have generous benefits, if they are closely tied to job-searching, counselling, and training—these are the countries that performed better," Scarpetta says.

Italy offers some of Europe's skimpiest unemployment coverage, with benefits lasting no more than 10 months and more than 40 percent of workers not covered by unemployment insurance at all. France has generous benefits but is less stringent about requiring people to search for work, so recipients tend to stay on the dole longer, Scarpetta says. Discouraged workers in central and eastern Europe often started their careers under Soviet-era central planning and can't find suitable jobs now.

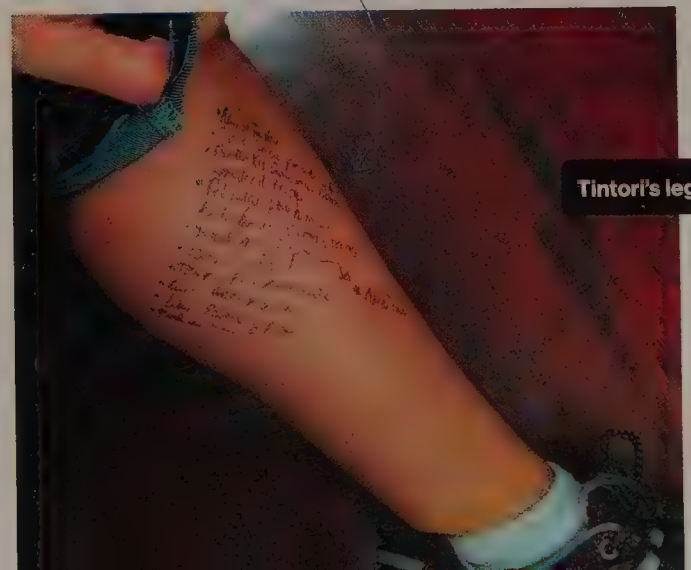
One of the biggest worries about discouraged workers is what happens to them in their retirement years. A recent OECD study estimated that someone who goes without a job for five years is likely to have 10 percent lower retirement income than someone who worked continuously. What about those who spend whole decades on the sidelines? Discouraged workers often rely on "the family network and wealth accumulated by past generations," economist Ragusa says. "When this wealth is eroded, no one knows who will take care of these people."

Elisabetta Bombacci lost her job as a saleswoman in a Rome dress shop in 2013. Now 52, she lives on her parents' savings and cares for her 90-year-old widowed mother. "I dream

Tintori smuggled out notes that became articles and one Washington Post op-ed

"During each visit, I write the thoughts of an innocent man on my skin."

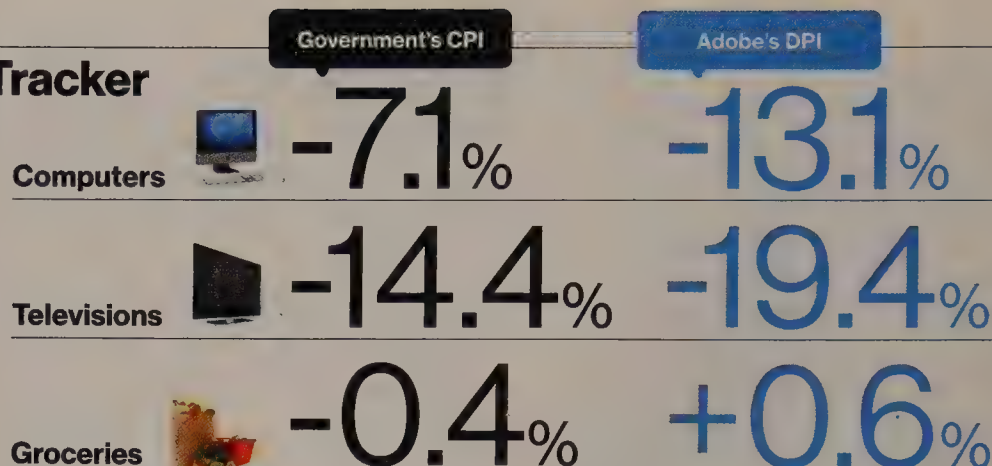
Lilian Tintori referring to her husband, Leopoldo López, Venezuela's most prominent opposition member, who's been incarcerated since February 2014. Tintori has relayed messages from him by writing on herself during visits.



Consumers A New Price Tracker

Software maker Adobe Systems' Digital Price Index updates daily based on online transactions at big retailers. It factors in new products and changes in sales volumes. The government's Consumer Price Index reports on 80,000 items monthly.

—Peter Coy



CHANGE FROM FEBRUARY 2015 TO FEBRUARY 2016; DATA: U.S. BUREAU OF LABOR STATISTICS; ADOBE SYSTEMS

◀ of having a job," she says. "Life is very expensive." But Bombacci isn't looking for a job and doesn't expect to work again. "Shops are looking for 25-year-old girls," she says. "I've been cut out of the labor market."

—Carol Matlack, with Giovanni Salzano

The bottom line In the U.S., the number of discouraged workers is dropping, while in Europe it's rising despite a recovery.

Government

Argentina's New Guard Hails From Wall Street

► **President Macri surrounds himself with bankers and traders**

► **The group is "technically skilled" and has "the ability to deliver"**

Hours after Argentina cut a deal with New York hedge funds to end a nasty, 15-year-old debt dispute, the government's top economic officials took to the podium in Buenos Aires to bask in the moment. First to speak that February evening was the finance minister, Alfonso Prat-Gay. He's an old **JPMorgan Chase** guy, a currency strategist. To his left sat Luis Caputo and Santiago Bausili, the two men in charge of the ministry's debt program. They, too, are JPMorgan alums, and both also did stints at **Deutsche Bank**. To Prat-Gay's right was Mario Quintana, deputy cabinet chief for President Mauricio Macri. Quintana founded **Pegasus Venture Capital** in 2000.

Since winning office in November, Macri, a former businessman, has loaded his administration with bankers,

traders, financiers, entrepreneurs, and economists. It's not the kind of move a leader would consider right now in, say, Spain or Greece, places where anti-Wall Street sentiment runs deep. In Argentina, where a decade of state intervention in the economy has fueled runaway inflation and stalled growth, the population is more open to the idea. Macri wants to undo the interventionist policies of the former regime as quickly as possible, and he wants professionals schooled in free markets to do it.

"People got tired of living in a place where the state stuck its nose in everything," says Miguel Kiguel, executive director of Buenos Aires-based consulting firm Econviews and the country's finance undersecretary back in the 1990s. In November elections, Argentines voted for an end to "absurd" regulations, he says.

The hirings are helping Macri win the confidence of international investors, a crucial step toward regaining access to global capital markets more than a decade after a \$95 billion bond default dropped Argentina from investors' shopping lists. Kiguel says the group is "technically skilled, strong," and made up of professionals who "have the ability to deliver."

That's not likely something any economist would have said of the staff of Macri's predecessor, Cristina Fernández de Kirchner. Her last economy minister, Axel Kicillof, was famous for railing against foreign investors, saying that Spain's Repsol was "looting" the country and that the defaulted bonds held by hedge funds were as worthless as cardboard.

A Buenos Aires native, Prat-Gay joined JPMorgan in 1994, about the same time as Caputo. By 1999, Prat-Gay had the top job in the bank's currency research group in London, a position he

left after the default to head Argentina's central bank.

Prat-Gay and his hires have removed restrictions on dollar purchases, allowed the peso to trade freely, and pared back government spending. In the next year they'll try to stem inflation by working with the central bank to keep interest rates high and tighten the money supply. And they must lure foreign businesses to Argentina so they will hire local workers.

One move that still needs congressional approval is the bond settlement Prat-Gay negotiated with billionaire Paul Singer and other hedge fund moguls. Kirchner's allies are sharply criticizing the terms of the deal as too favorable to international creditors. After the default, Argentina settled with most bondholders for 30¢ on the dollar. In February, Singer and the other holdouts got more than 70 percent of their claims. Therein lies a vulnerability for Macri: the perception that his Wall Street-groomed policymakers may be too cozy with investors. Argentines also recall that the last government dominated by businessmen and bankers, in the late 1990s, created the conditions that led to the country's default on its foreign debt obligations.

These reservations may prove more of a concern if Macri fails to stabilize the economy. For now, people just want to live in a normal country, says Econviews' Kiguel. At last count, annual inflation was about 30 percent. Fix that, and people may not care how much money foreigners make.

—Carolina Millan, with Daniel Cancel

The bottom line Argentina's finance minister has hired bankers to produce free-market solutions for the country's problems.

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Consulting



Can Designer Milk

In its quest to slake the world's thirst, **Coca-Cola** is intent on making milk a billion-dollar brand. But not just any kind of milk. Coke has joined forces with a dairy cooperative to create **Fairlife**, which produces a filtered, high-protein, low-sugar, lactose-free designer milk also called Fairlife. It costs about \$4 for a 52-ounce bottle—more than organic milk and about double what the conventional stuff sells for. In its first year on shelves, Fairlife reached about \$90 million in sales, giving a sizable boost to the specialty milk category, which includes milk with more calcium or no lactose.

Coke is part-owner of Fairlife through its Venturing and Emerging Brands group, which has backed Zico coconut water, Honest Tea, and Fuze juice drink. Fairlife Chief Executive Officer Steve Jones worked at Coke as chief marketing officer from 2000 to 2003. While there, he played a role in moving the beverage company beyond its Minute Maid frozen orange juice business to higher-margin products, such as Simply juice, a billion-dollar brand that's challenged market leader Tropicana—owned by rival **PepsiCo**—with its clear bottles. "It proved to me you can take a commodity and transform it into a dynamic high-growth category," Jones says of Simply. "We can do the same to milk."

Milk is only one of the latest attempts by Coke to offset declining soda consumption with healthier products. "We look at milk, honestly, as one of nature's superfoods," says Melanie Kahn, vice president for marketing at Fairlife.

Jones isn't the only branding executive with Coke on his résumé peddling milk. **Dean Foods**, the largest dairy processor in the U.S., has put Greg Schwarz, a former brand manager for Coke's Hi-C fruit drink business, in charge of its marketing.

Dean has co-branded its regional milks under one umbrella called DairyPure. The drinks are hormone- and antibiotic-free. The company is releasing a lactose-free variety this year. Dean has 60 milk-processing plants around the country. "We

Refresh Coke?

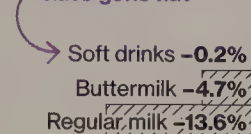
► Coke bets on high-protein, low-sugar milk to beat the real stuff

► "We look at milk, honestly, as one of nature's superfoods"

Milking It

52-week change in sales, week ended Feb. 20

Sales of Coca-Cola's flagship beverage have gone flat



DATA: NIELSEN

◀ can do local better than anybody," Schwarz says.

Consumers, especially millennials, want animals and workers treated well without compromising taste, convenience, or quality, says Fairlife co-founder Mike McCloskey, a veterinarian turned farmer. He's long been fixated on the comfort of cows and sustainable farming methods, such as converting manure into methane to power dairies.

The dairy industry has been striking out for decades in its efforts to get people excited about milk, as cereal consumption has slowed and soy and almond milk have cut into sales. Per capita milk consumption in the U.S. fell to about 19 gallons a year in 2015, according to the U.S. Department of Agriculture. At milk's peak, in 1945, The average American consumed about 42 gallons. Clever advertising and marketing—including the legendary Got Milk? campaign, begun in the 1990s—did little to spur growth.

Since 2011, Dean has targeted kids and adults with its TruMoo milk, which comes in such flavors as cookies and cream and chocolate marshmallow. Parents like it because the milk contains no high-fructose corn syrup. DairyPure, on the market for about 10 months, appears to be building on TruMoo's momentum. For the 12 weeks ended on Jan. 23, volume sales of Dean's branded milk rose 1.6 percent, compared with a 7.3 percent decline in the same period the year before, according to Sanford C. Bernstein analyst Alexia Howard. Specialty milk sales jumped 21 percent in 2015, up from 9 percent growth in 2014, largely thanks to "the launch of Coca-Cola's high-protein Fairlife brand," Howard says.

Some say Coke's drive for dairy will be an uphill climb, given Fairlife's premium pricing. "Somehow you've got to build a value-added case that there's more to this," says Ian

Shackleton, an analyst at Nomura International.

Coke, which holds a minority stake in Fairlife, believes its efforts will pay off. Jones was semiretired when he connected with McCloskey and his wife, Sue, in 2010. He urged them to team up with Coke, which has a vast distribution network and access to hundreds of thousands of supermarket shelves across the country. Two years later, Jones helped broker the joint venture.

"We needed the marketing," McCloskey says. "We had everything except the structure to get it to consumers in every corner of the country."

Fairlife can also tap Coke for guidance on research and development, chemistry, and marketing. Its board is split between members from Coke and farmers from the cooperative.

The soda giant takes a hands-off approach to the partnership, says Scott Uzzell, president and general manager for Coke's Venturing and Emerging Brands group. "They know dairy better than anybody," Uzzell says. "We know consumers." —*Shruti Date Singh and Jennifer Kaplan*

The bottom line Specialty milk sales jumped 21 percent in 2015, up from 9 percent in 2014, boosted by Coke's Fairlife drink.

Automobiles

Honda CEO Pledges Quality Over Quantity

► The company aims to make better cars and improve production

► "Honda's culture used to be more open and relaxed"

Last fall, **Honda** celebrated the North American launch of its redesigned 2016 Civic sedan at its Greensburg, Ind., plant, where it had invested \$97 million in upgrades over three years. Six days before the event, an engine on one of the new Civics seized up during quality-control checks.

By early January, three more engines had failed in the field and another had broken down at a Honda facility north of Toronto. More reports emerged of engines seizing up, resulting in a fire

and one alleged injury, according to filings by the company to U.S. regulators. By month's end, Honda had to recall 53,000 cars.

The Civic is Honda's best-selling model, and the misstep is a setback for the Japanese automaker and its new chief executive officer, Takahiro Hachigo. Since he took over in June, the 56-year-old engineer and Honda lifer has been trying to reassure analysts, dealers, and consumers that the spate of recalls in recent years associ-

"We have given the full control back to R&D, appointing people to be responsible for planning a product and strengthening its competitiveness."
—Honda CEO Takahiro Hachigo

ated with faulty air bags made by **Takata** and other quality-control problems are a thing of the past. He chalks up many of the challenges to a complicated organizational structure and inadequate communication among Honda's units. "We need to improve on that," Hachigo says.



Under the previous CEO, Takanobu Ito, Honda set an audacious goal in 2012 to double sales, to 6 million units, by March 2017. The automaker built plants in China, Indonesia, and Thailand and accelerated product development, placing huge demands on its engineers.

"Honda's culture used to be more open and relaxed," and engineers had more time to plan and test products, says Noboru Sato, a guest professor at Nagoya University who was a Honda engineer for 26 years and has written a book about the company. "But now, with so many new technology developments required to be competitive in the market—electric cars and autonomous-driving systems—too many tasks" are being put on them, he says.

Honda's Fit and Vezel subcompacts were called back several times each for persistent engine and transmission glitches from 2013 to 2014. The carmaker says it's also replacing more than 30 million Takata air bag inflators, which can rupture and spray plastic and metal shards at passengers, after incidents that resulted in at least nine deaths.

Costly recalls and a stronger yen have contributed to a 19 percent slide in Honda's stock this year. Its U.S. market share is about two percentage points short of where it was in 2009, and it's lost ground to **Toyota**

and Nissan in Japan. Overall, Honda expects vehicle sales to rise 8 percent, to 4.7 million units, for the fiscal year ending on March 31.

Hachigo plans to pull off what he calls a “fundamental transformation.” He’s reshuffled top management and is consolidating responsibility for product planning, development, and evaluation. “We have given the full control back to R&D,” he says, “appointing people to be responsible for planning a product and strengthening its competitiveness.”

Hachigo has pulled back from his predecessor’s sales targets and is slowing things down. Takehiro Kono, manager of a Honda plant in Yorii, north of Tokyo, says the company has beefed up quality checks on the Fit and Vezel cars made there. “The lead time needed to roll out a vehicle has become longer.”

Honda is also rethinking its global manufacturing network and plans to shift some production back to Japan from markets where the vehicles are sold. “Making a good global model is more efficient than introducing a number of variants for each regional market,” Hachigo says.

To lock in savings from the cheaper yen, Honda will begin exporting the Accord Hybrid sedan from Japan to North America for the first time this year, and it’s also considering exporting Civic and CR-V sport utility vehicles.

To revive sales, Hachigo is counting on several new models, including the redesigned Ridgeline pickup truck, the CR-V, and the Odyssey minivan in North America. He has big hopes for a locally produced Acura luxury SUV in China and the Freed minivan in Japan. The company plans to increase domestic production by 30 percent, to about 950,000 vehicles, by 2020.

Green cars are central to Hachigo’s plans. After the Clarity fuel-cell sedan goes on sale later this year, a plug-in hybrid version built on the same platform will debut by 2018. By about 2030, two-thirds of Honda’s sales will be hybrids, plug-ins, or fuel-cell vehicles, he says.

Takata remains a big concern, says Takashi Aoki, a fund manager with Mizuho Asset Management. “It’s hard to say the bad news is over.” As for the 2016 Civic recall, Hachigo played it down, saying that replacement parts are ready and repairs can begin and that the company has taken measures

to prevent the error from happening again. The speed of Honda’s expansion “has been too fast, and that has increased the workload at the research center and the plants. It’s my top priority to change that.” —*Jie Ma and Yuki Hagiwara, with Craig Trudell*

The bottom line Hachigo has reshuffled Honda’s executive ranks and plans to raise domestic output by 30 percent, to 950,000 vehicles, by 2020.

Fracking

Regulations Dry Up Wastewater Wells

► Trying to reduce fracking-related earthquakes in Oklahoma

► “The profits used to be fabulous. Those days are gone”

In 2010, as fracking was taking off in Oklahoma, Jeff Andrews, a former oil rig manager and drilling consultant, had an idea for how to cash in on the boom. Rather than drill a well that would produce oil, Andrews decided to drill one that could be used to dispose of all the salty, toxic wastewater that comes up with it.

It seemed like a sure thing. For every barrel of oil produced in Oklahoma, drillers produce an average of about 10 barrels of wastewater. While other states tend to treat and recycle their wastewater, Oklahoma has a history of shooting it back down into the ground.

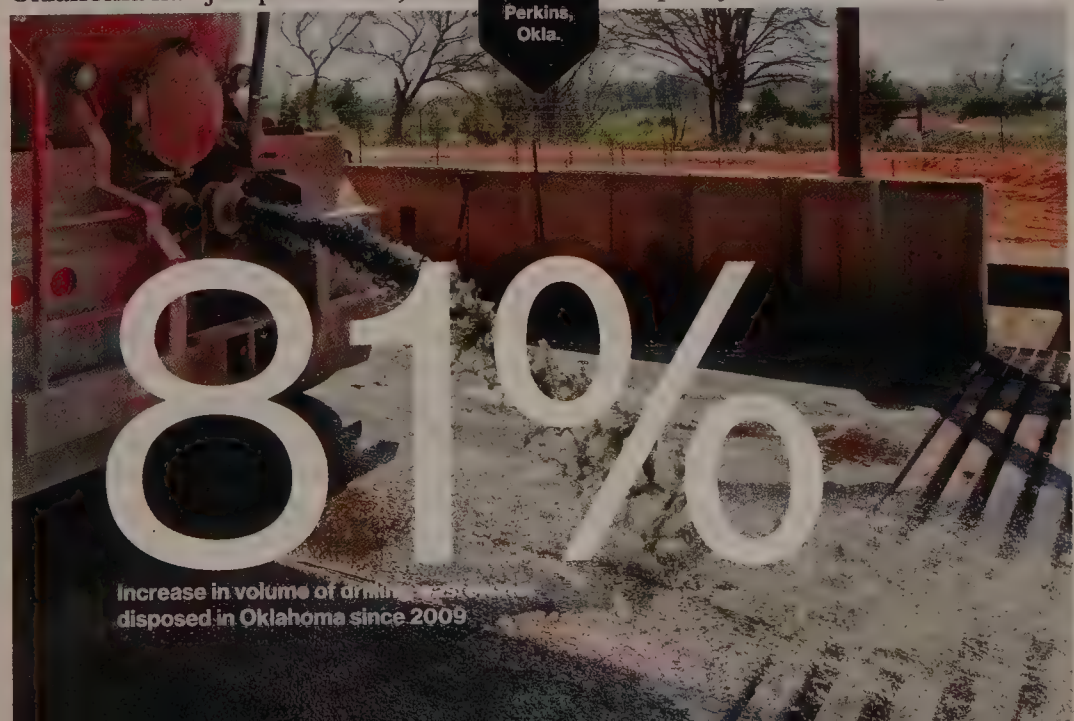
By mid-2014, oil production in Oklahoma had jumped to 300,000

barrels a day. That summer, Andrews was injecting about 9,000 barrels of wastewater down his disposal well daily—and charging about 75¢ a barrel. He and his partners were on their way to recouping the \$3.2 million they’d invested in the business. But there was one problem: Oklahoma was fast becoming the earthquake capital of the U.S., and scientists started to connect wastewater wells to a sharp rise in seismic activity.

Andrews’s well has gone from a cash cow to a money pit. Not only have oil prices crashed, causing a slowdown in the entire oil and gas industry, but regulations aimed at reducing quakes have put tight restrictions on hundreds of disposal wells. On March 7 the Oklahoma Corporation Commission, the state’s oil and gas regulator, ordered the operators of 400 disposal wells in central Oklahoma to cut the amount of water they inject underground. The goal is to reduce total wastewater volume in the area by 40 percent, or about 300,000 barrels a day.

“I’m probably going to have to shut my doors,” Andrews says. Under the new rules, he’ll have to cut back to 679 barrels of wastewater per day. The crash in oil prices has lowered the rate he can charge to about 35¢ a barrel, cutting his revenue to a couple hundred dollars a day.

Since 2009 the amount of wastewater disposed of in Oklahoma has increased 81 percent, to more than 1 billion barrels a year. The number of earthquakes measuring 3 or higher on the Richter scale jumped to 900 in 2015 from fewer than 2 in 2008. In the past year, OCC has imposed ►



◀ restrictions on hundreds of disposal wells, reducing the amount of water disposed underground statewide by a total of 1 million barrels a day. The actions appear to be helping in some areas. The number of earthquakes in central Oklahoma declined 27 percent from the first to the second half of 2015. “Until the earthquakes disappear, the threat level will continue,” says Matt Skinner, an OCC spokesman.

In 2012 the most violent activity was southeast of Oklahoma City; today it’s in the northwestern part of the state. In a 30-minute period on Feb. 13, a trio of earthquakes registering as high as 5.1 rocked northwestern Oklahoma and could be felt in seven states.

About 1,000 of Oklahoma’s 4,000 disposal wells are in the Arbuckle formation, a layer of limestone that stretches hundreds of miles across the state. The Arbuckle acts like a sponge, soaking up injected wastewater. Scientists believe that in some cases that water is increasing pressure along Oklahoma’s extensive fault lines, causing them to slip and setting off earthquakes. Blaming a particular well for a particular quake, though, is nearly impossible. “We don’t necessarily have a smoking gun that shows the mechanism of how that pressure transmits across fault lines,” says Jeremy Boak, director of the Oklahoma Geological Survey.

While most of Oklahoma’s disposal wells are owned by oil and gas companies, some, like Andrews’s, are independent operations. Problems affecting other parts of the fracking industry are also hurting his bottom line. Four trucking companies that pick up wastewater and pay Andrews to dispose of what they’ve collected have gone bankrupt in the past year, leaving him with \$85,000 worth of unpaid invoices. The deal “has ended up biting me in the rear,” he says.

Rick Jackson, who owns five disposal wells and 50 trucks in Oklahoma, is also getting squeezed. “The profits used to be fabulous,” he says. “Those days are gone.” Jackson’s wells, in the southern part of the state, haven’t been affected by the OCC’s reduced disposal volumes. Still, his two biggest clients, large oil producers, are cutting back, reducing the amount of water they’re giving him. He’s had to fire 22 of his 110 workers. “The name of the

game today is survival,” Jackson says.

The disposal regulations will lead to further cuts in oil production, says Kim Hatfield, vice chairman of the Oklahoma Independent Petroleum Association, a trade group of oil and gas producers. “If you can’t dispose, you can’t produce,” he says. Another option is to treat and recycle the water, which Andrews and Jackson each estimate would cost from \$2.50 to \$3 a barrel. Hatfield says the reality is closer to \$5. Given the state’s 10-to-1 ratio of water to oil production, that would mean oil prices need to be at least in the \$50-a-barrel range for producers to cover their water treatment costs. “I probably review at least one project a week promising to turn bad water into good,” Hatfield says. “Can they do it? Absolutely. Can they do it economically? No.” —*Matthew Philips*

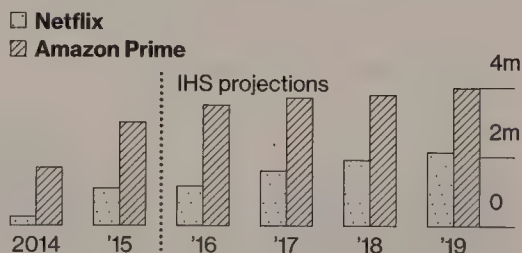
The bottom line In Oklahoma, regulations have reduced earthquakes—and squeezed profits at wastewater disposal companies.

Media

Memo From Netflix: ‘Ich Bin ein Berliner’

▶ Streaming services are creating European shows to win viewers

▶ German streaming subscribers



In a wooded area just outside Berlin, excavators rumble across the sandy soil, and the sound of hammering fills the air as workers clamber up five-story-high building facades. This is Babelsberg, the studio at the heart of Germany’s film industry, which is building a \$13 million outdoor set that stretches across an area the size of two football fields. Called *Neue Berliner Strasse*—New Berlin Street—it will be home to *Babylon Berlin*, a 12-episode TV series about the decadent final years before Hitler rose to power that’s

scheduled to start shooting in April. Produced by Britain’s **Sky** and German broadcaster **ARD** and directed by Tom Tykwer, creator of the 1998 hit film *Run Lola Run*, “the project is of a scale unlike anything Germany has seen before,” says Elke Walthelm, who heads Sky’s German content business.

Germany is becoming the focal point in the battle for the European pay-TV market—delivered via methods such as cable, satellite, and streaming—which researcher IHS expects to grow to \$58 billion in 2019, from \$44 billion last year. Sky has boosted spending on original fare and allied with **HBO** and **Showtime** to distribute its shows, and Internet-based newcomers are wooing customers with local-language productions. **Amazon.com** in February said it’s hiring popular German actor Matthias Schweighöfer to direct and star in its first original series produced outside the U.S., a hacking thriller set in Berlin called *Wanted*. Two weeks later, **Netflix** announced its first German project, *Dark*, a supernatural series that will be directed by Switzerland’s Baran bo Odar, whose thriller *Who Am I* was a box-office hit in Germany. “Our U.S. original content travels well, but there is great TV being made in many countries,” says Jonathan Friedland, chief communications officer for Netflix.

Local content is important as the companies seek to expand internationally. Netflix in May will air *Marseille*, a French political drama starring Gérard Depardieu, and it’s working on an Italian crime series called *Suburra* that’s set to air next year. Sky has shot several shows in Italian, including *Gomorra*, another crime drama, now in its second season. Local-language programming resonates with European audiences and is often more popular with advertisers than imported shows—as seen in the success of Scandinavian dramas such as *The Bridge* and *The Killing*, says Neil Campling, a media analyst with Aviate Global in London. “But there’s also a higher degree of risk, since you have to believe local content will translate into global appeal,” he says.

As Netflix and Amazon seek a bigger share of the European market, they’re coming up against powerful incumbents such as France’s **Canal Plus**, with 15 million subscribers, and Sky, with 21 million and an extensive lineup of soccer, rugby, and other

Briefs

By Kyle Stock

After

Sicker Still

●◀● *Valeant Pharmaceuticals International*, under investigation by federal prosecutors over its accounting, pricing, and distribution practices, reported a dismal fourth quarter and slashed its profit and revenue forecasts for 2016. The Canadian drugmaker's price hikes have alienated patients and insurers, and an acquisition binge has saddled the company with \$30 billion in long-term debt. ●◀● *Avon Products* will trim 2,500 jobs and move its headquarters from New York

to the U.K. in a bid to rejuvenate its business. The announced changes came two weeks after the direct-sales cosmetics company sold its North American operations to private equity firm *Cerberus Capital*

Management. Avon's sales have declined for four consecutive years. ●🏠● *REI's* decision to shutter stores on Black Friday seems to have paid off. Riding a wave of positive publicity, the outdoor-gear retailer reported \$2.4 billion in 2015 sales, a 9.3 percent increase from the year before. Sales at established REI stores ticked up 7 percent. ●🐔● *Chipotle Mexican Grill* warned that it will book its first quarterly loss as a public company in late April, as a food-safety crisis continues to damage its financial health. Last month sales at existing restaurants plunged 26 percent, more than analysts had expected. ●🏢● *Goldman Sachs* agreed to buy *Honest Dollar*, a retirement-savings startup in Austin, for an undisclosed sum. For \$8 to \$10 a month, the year-old company connects small-business employees to companies hawking low-cost IRAs.

Before

An app for sharing before-and-after plastic surgery photos raised \$50 million from **Tencent Holdings**. Made by SoYoung Technology, it's been downloaded 10 million times.

The starting price of an **Apple** car, as forecast by Piper Jaffray analyst Gene Munster. He predicts the tech company will start selling an electric vehicle in 2021.

\$75k

CEO Wisdom

"We're a real company, solving a real problem, creating real revenue."

—**Jamie Siminoff**, CEO, Ring, a maker of smart doorbells, after securing \$61 million in venture capital



sports programming it's spent billions of pounds assembling. And HBO, with channels in 15 countries, said in February it's looking for Scandinavian productions. Another challenge for the streaming services: high-quality content produced by well-funded public broadcasters. While 90 percent of American homes have pay-TV subscriptions, only about 30 percent of German households and two-thirds of those in the U.K. do. Those who pay can choose from a variety of Netflix-like streaming services, such as Sky's Now TV and **Maxdome** in Germany.

The advantage Netflix and Amazon bring is their relatively modest price: In Germany, Netflix starts at €7.99 (\$8.87) a month; Amazon Prime is €49 per year, which also includes music streaming and free shipping for purchases from its Web store. Cable TV, by contrast, can run from €20 to €100 monthly, though the more expensive packages typically include Internet. Netflix has joined with cable and telecom companies including **Virgin Media** in the U.K. and **Deutsche Telekom** in Germany to widen its reach in a "marriage of convenience," says IHS analyst Ted Hall. "Households are likely to spread their entertainment budgets across a variety of services."

The fight will be waged throughout Europe, but Germany is of particular importance as the region's largest and wealthiest economy. And there's plenty of room to grow: IHS says Netflix has 1 million subscribers in the country—just 7 percent of its total for Europe—and 3 million German households use Amazon's Prime video, about 7.7 percent of the country's homes with TVs, or a little more than half the penetration it has in the U.S. "For such a developed market, Germany was slow on the uptake," says IHS analyst Daniel Sutton. "TV wasn't something you pay for, it's something you get. That's changing, and people are more willing to pay for TV." —*Stefan Nicola and Kristen Schweizer*

The bottom line Netflix and Amazon, seeking a bigger share of Europe's \$44 billion pay-TV market, are creating more local programming.

March 21 — March 27, 2016



#TheFuture

► Sanders won't be the Democratic nominee, but his supporters will shape the party

► "The groups that dominate...now are different than the ones that dominated 20 years ago"

Hillary Clinton's March 15 sweep of Florida, Illinois, Missouri, North Carolina, and Ohio effectively slammed the door on the story that would have dominated this presidential primary season were it not for one Donald J. Trump: the rise of Vermont Senator Bernie Sanders to lead a movement that threatened Clinton's path to the Democratic nomination. A self-styled "democratic socialist" and scourge of Wall Street, Sanders has gone much further than anyone anticipated. His

ability to inspire the party's liberal grass roots—which has delivered more than \$100 million in financial support along with its loyalty—means that he could conceivably stay in the race all the way until the Democratic convention in July. But he won't be the nominee. Clinton's delegate haul now all but assures that.

Ever since Sanders began drawing massive crowds last summer, pundits have explained his strength as being primarily a product of Clinton's

weaknesses: her trouble attracting young people, her murky ties to wealthy donors and Wall Street, her inability to energize Democratic voters despite what is, after all, an historic candidacy. At the Democrats' March 9 debate, Clinton herself seemed to accept this critique when she said plaintively, "I am not a natural politician, in case you haven't noticed."

Maybe not. But the true basis of Sanders's strength has been largely overlooked: He gives voice to a set

1,599

including 467 superdelegates

The Kochs' rallying cry for Latinos 28

A D.C. power struggle over power 31

Arizona's GOP clamps down on local generosity 30

Ted Cruz's stealth weapon against Trump 32

of policy ideas that lie closer to the hearts of most Democratic voters—and especially the Democratic voters of the future—than Clinton's do. That's why the "revolution" he's repeatedly called for won't be quelled for long, even though Clinton will be the one accepting the party's nomination in Philadelphia. This is as much a demographic certainty as a political one.

In their 2002 book, *The Emerging Democratic Majority*, John Judis and Ruy Teixeira predicted that Democrats would enjoy an advantage in national elections because the major demographic groups that make up their coalition (young people, minorities, and single white women) were all growing as a percentage of the electorate, while the groups that Republicans rely on (married white people and seniors) weren't keeping pace. This proved prescient. In 2008 and then 2012, Barack Obama successfully activated what the journalist Ron Brownstein dubbed the "coalition of the ascendant" to win the White House.

Yet the rise of this new coalition has also had underappreciated policy implications. "The groups that dominate the party now are different than the ones that dominated 20 years ago—they're further left," says Teixeira. Indeed, millennials, minorities, and single white women all favor a more activist and interventionist government, particularly in the economic realm, than do other Democrats. Consider:

- A 2011 Allstate/National Journal Heartland Monitor study found that black, Latino, and Asian voters were twice as likely as white voters to say that government should play "an active role in regulating the marketplace."

- A 2015 annual survey of college freshmen conducted by the University of California at Los Angeles found that more students identified as "liberal" than at any time since 1973.

- A December Democracy Corps poll found that unmarried white women favor Clinton over Trump by 27 points, while their married counterparts prefer Trump by 12 points.

These groups not only favor more liberal policies,

they're growing impatient for them. "They're fed up with the lack of progress," says Teixeira. In hindsight, it shouldn't be quite so surprising that Sanders won more than 80 percent of voters under 30 in Iowa, New Hampshire, and Nevada, or that young single women have flocked to him rather than Clinton. "There's growing evidence that these groups are open to the boldest possible reforms," says Democratic pollster Stanley Greenberg. "But they won't engage unless they think you're leading from the outside and willing to break down this system in which moneyed interests dominate government." Sanders fit the bill.

To her credit, Clinton recognized this shift in the Democratic coalition and moved to accommodate it. She has embraced same-sex marriage, criminal justice reform, and tighter Wall Street regulations, while spurning calls to cut entitlement programs—a mainstream Democratic position as recently as a few years ago. "[You] deserve a president who will protect, and then expand, Social Security for those who need it most, not cut or privatize it," Clinton declared in her March 15 victory speech. Most striking, she's turned against the Trans-Pacific Partnership, a trade deal she helped negotiate as secretary of state.

All this looks as if it will be enough to secure her the nomination. It may not be enough to satisfy Democratic voters under a future Clinton administration. "Minority voters, unmarried single women—these voters are very open to big policies," says Greenberg, who lays out his own predictions in a new book, *America Ascendant*. "Whether it's investment taxes, changing corporate governance, or progressive income taxation, they are supportive of the broadest possible changes."

The rising Democratic coalition will continue to grow. Greenberg estimates that 73 percent of likely Democratic voters already belong to this group. Take millennials, Sanders's most ardent supporters. Eight years

ago, when Obama first ran, many weren't eligible to vote. This year they're as large a share

of the voting-age population as baby boomers. By 2020, when a President Clinton would come up for reelection, millennials will easily outnumber them.

The important thing to understand is that Sanders is a vehicle, not the catalyst, for the increasing liberalism of the Democratic electorate. No one should make the mistake of assuming that just because he'll go away, the agenda he speaks for will, too. "Sanders isn't just a flash in the pan," say Teixeira. "His success indicates something much deeper. For better or for worse, the Democratic Party is a party in flux and moving in a more progressive direction. And if you're going to lead the party, you ignore those elements of discontent at your peril." —Joshua Green

The bottom line Hillary Clinton will win the Democratic nomination, but the party's future lies with Bernie Sanders's supporters.

Supreme Court

Obama Calls the GOP's Nomination Bluff

► Republicans figured the president wouldn't pick Merrick Garland

► The court nominee is "essentially from central casting"

The last time President Obama had a high court seat to fill, in 2010, Republicans singled out Federal Appeals Court judge Merrick Garland as their preferred choice. Utah Senator Orrin Hatch, an influential GOP voice on judicial nominations, said publicly at the time that he'd gone so far as to recommend Garland to the president as "a consensus nominee" who would get confirmed "virtually unanimously." Obama chose Elena Kagan, his solicitor general, instead.

Asked on March 11 about the current opening created by the unexpected death of Justice Antonin Scalia, Hatch told the conservative website Newsmax.com that Obama "could easily name Merrick Garland, who is a fine man." Hatch, who is among

844

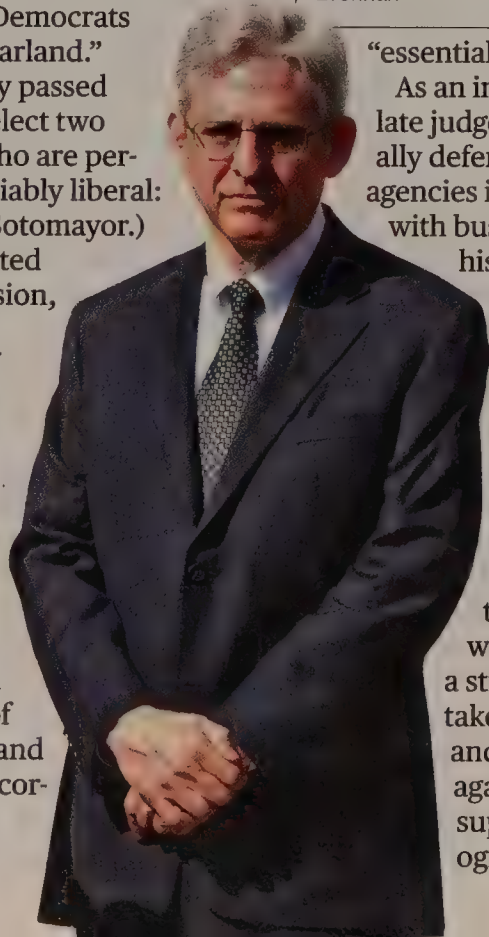
including 26 superdelegates

◀ the GOP politicians who have said the Senate shouldn't hold hearings on anyone Obama nominates, added that the president "probably won't do that because this appointment is about the election." Instead, Hatch speculated, Obama would nominate someone to please the Democratic base.

On March 16, Obama called Hatch's bluff, announcing his nomination of Garland, the centrist chief judge of the U.S. appeals court in Washington, D.C. Following Senate Majority Leader Mitch McConnell, Hatch promptly doubled down and said lawmakers should stonewall the Garland nomination. "Doing so will keep what should be a serious confirmation discussion from becoming denigrated by the toxic politics of this election season," Hatch said in a statement on his website. "This approach to the Senate's advise-and-consent role isn't about the individual the president has chosen," the Republican added. "It's about the broader principle."

By sending Garland into the partisan maelstrom, Obama has made the battle about a particular individual, one who will test the Republican strategy of maximum obstruction. In a Rose Garden ceremony, the president said that in discussions about Supreme Court vacancies during his White House tenure, "the one name that has come up repeatedly, from Republicans and Democrats alike, is Merrick Garland." (Obama previously passed over Garland to select two women justices who are perceived as more reliably liberal: Kagan and Sonia Sotomayor.)

Obama highlighted Garland's supervision, under the Clinton administration, of the federal investigation into the 1995 Oklahoma City bombing and the successful prosecution of homegrown terrorist Timothy McVeigh. Between U.S. Department of Justice stints, Garland was a partner at a corporate law firm in Washington.



At 63, Garland, a judge for the past 19 years, would be the oldest Supreme Court nominee since President Richard Nixon chose 64-year-old Lewis Powell in 1971—a factor that under ordinary circumstances might endear him to Republicans, who would prefer justices appointed by Democrats not to stay on the bench for very long. For all Garland's ideological moderation, though, his installation in Scalia's place would undoubtedly tilt the court to the left, giving Democratic-appointed justices a 5-4 advantage that could lead to liberal victories on such topics as abortion, affirmative action, campaign finance, and regulation of business.

The other reported finalists for the Scalia vacancy were Sri Srinivasan, an Indian-born colleague of Garland's on the D.C. appellate bench, and Paul Watford, a black judge on the U.S. appeals court based in San Francisco. Of the three, Tom Goldstein, a prominent appellate lawyer in Washington

Merrick Garland

Age 63

Hometown Chicago

Education Harvard BA in social studies, 1974; JD, 1977

Clerkships Second Circuit Judge Henry Friendly; Supreme Court Justice William Brennan

and co-founder of the Scotusblog website, ranked Garland as the best qualified and, the Republican roadblock notwithstanding, the most confirmable. Garland, Goldstein wrote before the announcement, is

"essentially from central casting."

As an intermediate-level appellate judge, Garland has generally deferred to federal regulatory agencies in their confrontations with business. He wrote for his court in 2015 when it upheld a 75-year-old ban on federal contractors making federal campaign contributions. In other cases, he's led panels that backed the National Labor Relations Board when it ordered an Indianapolis company to reinstate workers who were fired after holding a strike to protest actions taken against a co-worker, and when the NLRB ruled against a California lumber supplier that withdrew recognition of a union.

Given Republicans' intransigence, Garland's most salient characteristic might be his proven willingness to wait. President Clinton first named him to fill a vacancy on the D.C. appeals court in 1995, but the nomination languished before a Republican-controlled Senate whose majority said the Washington court had too many members. After winning reelection in November 1996, Clinton renominated Garland. In March 1997, he finally won approval in a 76-23 vote; Republicans who opposed him said it wasn't personal, and they were merely protesting an unnecessary judgeship. If a Democrat is elected this fall, Garland could follow a similar path to a seat on the top court. —Paul M. Barrett

The bottom line The nominee for Scalia's vacant Supreme Court seat was previously endorsed by Orrin Hatch, who now opposes hearings.

Demographics

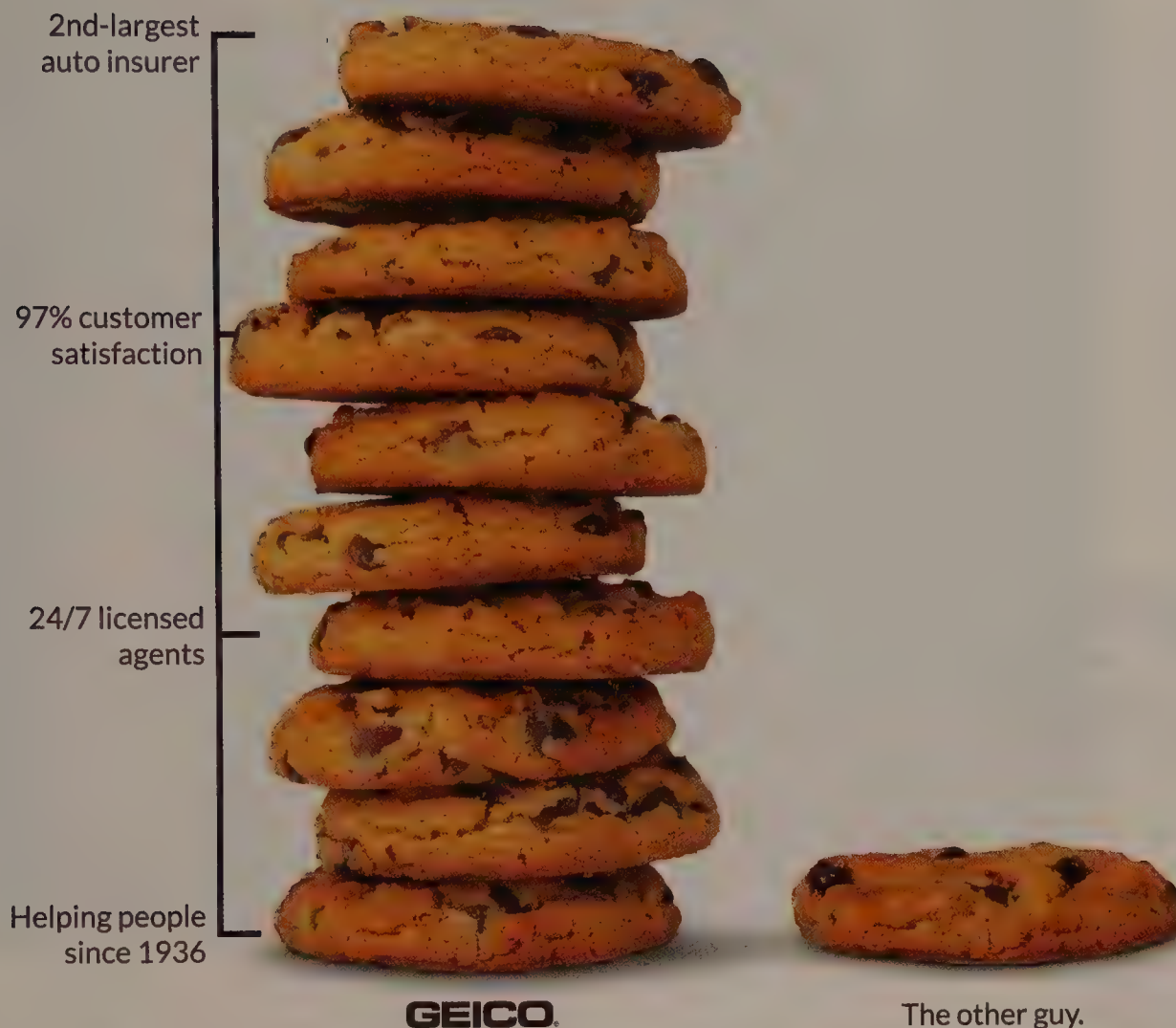
A Latino Bloc Of Their Own

▶ **The Koch brothers are nurturing Hispanic conservatives**

▶ **"We want those people to get out and vote"**

Lisa Meklas, a 30-year-old insurance underwriting assistant in Charlotte, is exactly the kind of person the Libre Initiative wants to get excited about the conservative movement. A first-generation American whose parents came from Cuba, Meklas is a registered Republican who says she's against tax increases. When canvassers knocked on her door on March 12 and asked whom she planned to support in North Carolina's March 15 primary, she was candid: "Anybody but Trump would be my actual answer."

The Libre Initiative courts support among Latinos such as Meklas for reducing the size of government, rolling back Obamacare, and promoting school voucher programs. Since 2011, Libre—a nonprofit funded in part by groups affiliated with the conservative billionaires Charles and David Koch—has opened offices in 10 states, including Arizona, Florida, and Texas. It had a budget ▶



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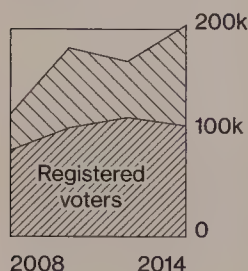
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Ground Game

North Carolina's Latino population has skyrocketed, but almost half of the state's eligible Latinos aren't registered to vote:



Of those who are, 37.7% are registered Democrats. Only

22.3%

are registered Republicans. The Libre Initiative hopes to increase registration and turnout among conservative Latinos in North Carolina and nine other states.



◀ of about \$9 million in 2014, the most recent year for which records are available, and employs about 125 people who have recruited thousands of volunteers. “There are 15 million Latinos who make over \$50,000 in America,” says Executive Director Daniel Garza. “If they’re already prone to vote for free-market or freedom-oriented issues or candidates, well, that’s good information to know. We want those people to get out and vote.”

In 2012, Garza says, about 40 percent of Latinos making more than \$50,000 annually voted for Mitt Romney. This year, he says, his volunteers will knock on 2 million doors and make 5 million phone calls to eligible voters. Details of those visits and calls are shared with i360, a voter database for conservative candidates that’s also funded by the Koch network. The goal is to raise turnout among Latinos sympathetic to conservative economic ideas. (As a nonprofit, Libre can’t explicitly advocate for the Republican Party.) Libre also hosts social events, including seminars on personal finance.

Libre’s mission has been complicated by Donald Trump’s emergence as

the Republican front-runner. The candidate kicked off his campaign with a speech characterizing undocumented Mexican immigrants as rapists, and he’s vowed to force Mexico to pay for a wall along the southern U.S. border. In early March a consortium of liberal groups announced an effort to raise \$15 million, including \$5 million from billionaire George Soros, to register 400,000 Latino voters this year in several states, including Colorado, Florida, and Nevada. “Our intention is to take the fear and anger in our community and turn it into votes,” says Cristóbal Alex, president of Latino Victory Project, a liberal group founded by actress Eva Longoria. Its super PAC is backed by hedge fund billionaire Tom Steyer.

Garza, the son of migrant farmworkers, acknowledges the frustration among Latinos with Trump, whose statements he describes as “cruel.” But he says Trump’s rise isn’t a reason for him to stop his work. “We know that this is going to be a long-term play,” Garza says. Libre volunteers say they also remain committed to spreading the word about free-market economics. “The principles are

the same” as the ones she learned as a child in Peru, says Claudia Faura, who helped knock on doors in Charlotte. “We don’t want to be depending upon the government.” —*Tim Higgins, with Zachary Mider*

The bottom line A Koch-backed effort to court Latino voters has run into competition from liberals mobilizing opposition to Trump.

Labor

Help Workers, Risk Losing Money for Cops

► Arizona Republicans want to stop cities from setting benefits

► “You can’t put a municipality in jail, nor would we”

Inspired by decisions in such cities as Tacoma, Wash., and Elizabeth, N.J., to require companies to offer paid sick leave, Lauren Kuby, a City Council member in Tempe, Ariz., began pushing a year ago for her city to do the



create a patchwork of different wage and employment laws." He vowed to do everything in his power to block them, "up to and including changing the distribution of state-shared revenue."

Cities "think that they're an independent and sovereign entity from the state, which is not true," says Arizona Senate President Andy Biggs, who spearheaded one of the bills. "You can't put a municipality in jail, nor would we. What we're really seeking to do is provide a deterrent effect."

Legislators in other states have also moved to stop local officials from trying to pass minimum wage increases or paid leave. In Alabama, state lawmakers invalidated a Birmingham minimum wage increase to \$10.10, from \$7.25, in February by passing a law denying cities such authority. Idaho's legislature passed a similar law in March.

Paid sick leave supporters scored their first win in San Francisco in 2006. Twenty-three cities and five states have enacted sick leave since, most recently in Vermont on March 9. But such laws have been squashed in GOP-dominated states. Milwaukee passed a paid leave law by referendum in 2008. Following a strategy used to block local regulations on smoking and guns, Wisconsin Governor Scott Walker signed legislation overriding it in 2011. "Most of us hadn't paid attention to what had happened in the tobacco world and in the gun world," says Ellen Bravo, executive director of the advocacy group Family Values @ Work. "We should have paid attention in Milwaukee."

Restaurant owners have led the opposition to city sick leave ordinances in Arizona. "We just ask that they have the ability to choose what regulations are put on their business," says Arizona Restaurant Association lobbyist Chianne Hewer. "At the state level, while it's still crazy there as well, you're able to have one discussion."

The current fracas is the latest round in a two-decade tug of war between Arizona's cities and its legislature over labor rules. Legislators first banned

cities from passing their own minimum wage increases in 1997. Voters overrode that law with a 2006 referendum authorizing cities to pass minimum wage and benefits laws. In 2013, legislators banned cities from regulating wages and employee benefits,

which activists successfully challenged in court, citing the 2006 referendum.

If legislators' latest proposals become law, Democrats including Phoenix Mayor Greg Stanton promise more lawsuits. "My message to members of the legislature that do want to micromanage cities and to preempt cities on ordinances and laws that reflect the values of our community," he says, "is, if you really feel that strongly, run for mayor. It's a great job." —Josh Eidelson

The bottom line Arizona cities that mandate sick pay would lose state funding under legislation being considered by state lawmakers.

Utilities

Exelon Finds Out How Tough D.C. Can Be

► **A deal to make a mega-utility founders on local power struggles**

► **"Exelon and Pepco have tried like crazy to get the deal done"**

Chicago-based energy company **Exelon** came to Washington in 2014 with a plan to create America's biggest utility by acquiring **Pepco Holdings**, which provides power to the District of Columbia and neighboring parts of Maryland, as well as areas of Delaware and New Jersey. But the \$6.8 billion takeover has hit an unexpected obstacle: a local fight over who gets to control the \$78 million Exelon and Pepco have offered to hand over as a deal sweetener. The dispute between Mayor Muriel Bowser, a Democrat, and the local utilities regulator, the District of Columbia Public Service Commission, could kill the deal.

On March 7, Exelon, the biggest U.S. nuclear energy operator, and Pepco introduced a last-ditch proposal that included a plan for meeting environmental targets and freezing residential rates until 2019. The companies asked for a final decision by April 7.

Exelon Chief Executive Officer Chris Crane wants to add Pepco's steady, regulated earnings to offset losses at some of his company's nuclear power plants. "We think this deal is the right deal at the right time for Exelon," he said when he announced the merger in 2014. Exelon and Pepco won

"Most of us hadn't paid attention to what had happened in the tobacco world and in the gun world. We should have paid attention in Milwaukee."
—Ellen Bravo

same. By September, Kuby had secured enough support from her colleagues to have Tempe formally explore the issue. "I really took seriously Obama's call to take local action," says Kuby. "I saw cities as the place to make a difference."

Then Kuby and her colleagues heard that Arizona's Republican-controlled state legislature was considering punishing cities that tried to set their own codes for worker benefits. Arizona's House passed a bill on March 1 specifying that cities can't require private employers to provide paid sick leave or vacation. The state Senate has passed companion legislation that would cut state funds, used to pay for services like police and firefighting, for cities that try to supersede state laws. "They actually decided to dissolve our study group because they were so chilled by the state threat," says Kuby.

Lawmakers in Phoenix, Arizona's capital, say they were inspired after the Republican governor, Doug Ducey, called in his January State of the State address for cities "to put the brakes on ill-advised plans to

◀ approval from Delaware and New Jersey, and in January they overcame a legal challenge from Maryland officials, leaving the District the last remaining hurdle.

Local regulators initially rejected the merger in August, saying it wasn't in the best interests of ratepayers and could curtail the District's efforts to use more renewable energy. Six weeks later, Exelon and Pepco announced a settlement with Bowser and other city representatives. The arrangement included assistance for low-income customers and grants for green energy projects.

In February the three-member utilities commission spurned that plan, saying it deprived the commission of its ability to determine how the money should be allocated. It put forth an alternative that didn't guarantee a residential rate freeze, which the mayor's office and other city officials promptly rejected. "If this thing gets scuttled, it'll be scuttled for perhaps these reasons of who gets to control what money," says D.C. Councilmember Mary Cheh, a Democrat who represents neighborhoods in the city's northwest quadrant. She opposes the merger, which she thinks could raise rates.

The District's consumer advocate, People's Counsel Sandra Mattavous-Frye, said on March 11 that she wouldn't accept the company's most recent offer. D.C.'s attorney general, who represents the mayor's office, also rejected it. Commission spokeswoman Kellie Armstead Didigu declined to comment on the proposal. Exelon and Pepco said in a joint

statement they still hope a solution can be worked

out. "Exelon and Pepco have tried like crazy to get the deal done," says Paul Ridzon, an analyst for KeyBanc, a Cleveland-based investment bank. "But when you get politicians involved, I try not to handicap it."

—Mark Chediak and Brian Wingfield

The bottom line D.C. officials are on the verge of blocking a \$6.8 billion merger between Exelon and Pepco that would create the largest U.S. utility.

Election 2016

Ted Cruz Has a Plan To Beat Trump in July

► He's making sure his loyalists have a say at the national convention

► "They've got a big coalition, and they're organized"

While Ted Cruz was campaigning in Missouri before the state's March 15 primary, his staffers were in Iowa to wring another victory out of the state that gave him the first win of the primary season. Delegates elected in each of Iowa's 1,681 precincts gathered on March 12 to begin the process of deciding who will represent the state at the national GOP convention in July. The Cruz team's goal? To make sure its loyalists get to Cleveland, where they can be positioned to help their man take the nomination in a floor fight if front-runner Donald Trump falls short of the 1,237 delegates he'd need to win on the first ballot. "We're making resource allocations based upon stopping Donald Trump," says Cruz campaign manager Jeff Roe.

Following a strategy used in 2012 by Ron Paul, the Cruz campaign encouraged its supporters to stay late the night of the Feb. 1 caucuses to elect the precinct delegates who then voted in the county conventions. The next step involves organizing those precinct representatives to back the selection of Cruz-friendly delegates at county and state GOP conventions. Delegates chosen by each of the 99 county Republican organizations will vote at the congressional district and state levels to pick the national convention delegates who will actually nominate the GOP presidential candidate.

At Cruz's Houston headquarters, a six-person team overseen by political operatives, lawyers, and data analysts figures out which local party activists to target. Each state party has its own rules for delegate selection, but people running for delegate slots typically mount e-mail campaigns and give speeches at county and state conventions. "We make sure that all of the people who were whipped up leading up to the caucuses are ready," says Roe.

At the national convention, a fraction of the 2,472 delegates will be free to pick the candidate of their choice on the first ballot, regardless of their state primary results. About three-quarters can do so if there are subsequent votes. Some states, such as Alabama, require national convention delegates to support whoever won the popular vote throughout the nominating process. Iowa, where Trump and Marco Rubio each won seven delegates to Cruz's eight, is among those that allow national delegates to vote for whom ever they want if no one wins the nomination on the first national convention ballot. So is Georgia, which holds its county conventions on March 19.

Cruz's investment in putting his loyalists in place now may help him circumvent the need to scramble if there's a floor fight in July. "Of any of the campaigns, the Ted Cruz people are the best-positioned," says Iowa Republican operative Grant Young. "They've got a big coalition, and they're organized."

—Sasha Issenberg, with Steven Yaccino

The bottom line Cruz is moving to ensure a majority of the 2,472 delegates at the GOP national convention would back him in a floor fight.

Quoted

"We have no worries. And if we do worry, it's about the weather. Will it rain today, or remain gray, or will it be cold?"

Danish social worker **Knud Christensen** to the Associated Press, on why Danes ranked first in the UN's 2016 *World Happiness Report*, released on March 16.

Lester Holt

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March 21 — March 27, 2016

India's Internet Is Really Sl



► With Facebook Free Basics blocked in India, Google and Microsoft are stepping in

► “The important thing is to build products that can work on patchy networks”

Google may be the world's biggest Internet company, but Rajan Anandan, the head of its India operation, says he's become just as focused on what users are doing offline. His team has led Google's push into apps that can download data for later use without an active mobile connection. One helps people navigate New Delhi public transit; another lets users store YouTube videos for replay; a third offers an offline version of Google Maps. These efforts all have the same goal: making Google products easy to use even with poor Internet connections.

About 375 million to 400 million people in India are online, the world's second-largest Internet population

after China. Many depend on mobile connections that can only be generously called spotty. Indians who use smartphones to go online have access to a wireless network only about 56 percent of the time, estimates Ericsson, the Swedish mobile tech company. The average connection speed is 2.5 megabits per second, according to Akamai Technologies, a company that makes technology to speed delivery of Web content. (The average speed in the U.S., which isn't exactly best in class, is 12.7 Mbps, and in South Korea it's 20.5 Mbps.) “Sometimes you get 2G, sometimes you get 3G, and sometimes you get no G,” Anandan says. “The important thing

is to build products that can work on patchy networks.”

In February, the Telecom Regulatory Authority of India released regulations effectively banning Facebook's Free Basics, a product available in about three dozen countries that offers free access to a stripped-down version of Facebook and a handful of sites that provide news, weather, nearby health-care options, and other info. The government, along with open-Internet advocates, reasoned that making Facebook synonymous with the online world for many new users would hurt competitors. There's no shortage of software developers in the country, the ►

10%

Roughly the share of the world's 1.4 billion Android phones that are encrypted, experts told the *Wall Street Journal* for a March 14 report

By comparison,
95%
of iPhones are
encrypted, the
experts said

◀ thinking goes—what users need is a bigger pipe.

Much bigger. From 2014 to 2019, Cisco Systems estimates, India's monthly mobile data traffic will swell 13-fold, to 1.1 billion gigabytes, and by 2019 streaming video will account for three-quarters of total Internet use, up from about half today. **Netflix** launched its India service in January.

Among the companies proposing piecemeal solutions are Google, **Microsoft**, and **Huawei Technologies**, the Chinese maker of wireless equipment. Google is installing free Wi-Fi in 100 railway stations throughout India this year, beginning in Mumbai. Microsoft is testing whether unused slices of the TV spectrum can reliably deliver Wi-Fi instead. Huawei is working with mobile operators to improve the efficiency of their existing networks.

1.1

billion

India's estimated
monthly mobile data
traffic in gigabytes
by 2019

Huawei says it's been able to increase speeds for clients by as much as 30 percent, in part by replacing outmoded equipment.

For companies that offer streaming video, that probably

won't be enough. Yet some providers are finding ways to cope. **Vuclip**, a Silicon Valley subsidiary of Hong Kong telecom company PCCW, delivers videos to 9 million customers in emerging markets, more than half of whom are in India, where networks may officially be 3G but in reality "vary all over the place," says Chief Executive Officer Nickhil Jakatdar. "It's like it depends on

the phases of the moon." Because unreliable networks can easily lead to long buffering delays, Vuclip's system automatically adjusts the resolution of its video stream to match the conditions of the network so there are no interruptions. In one three-minute video, Jakatdar says, Vuclip may change the quality about a dozen times. The goal, he says, is to "provide a buffer-free experience for the consumer."

Other companies are using similar strategies. **Star India**, part of Rupert Murdoch's 21st Century Fox, launched a video streaming service called Hotstar last year that the company says is designed to play "on mobile networks with inconsistent throughput." **Sony**, **Warner Bros.**, and **Singapore Telecommunications** last June rolled out HOOQ, another video service, with an offline mode and a bandwidth indicator that tells users how good the connection is. In November the Indian arm of Norwegian mobile operator **Telenor** introduced a streaming service that makes it easy for users to download content during off-peak hours and watch it later without Net connections.

To reduce delays, some companies are turning to data center operators such as New York-based **GPX Global Systems**. GPX will expand its Mumbai center to help customers including **Amazon Web Services** connect with Indian consumers locally rather than via servers in locations such as Singapore. "The pace has picked up because customers are now demanding a better experience," says Manoj Paul, president and chief operating officer of GPX in India. By using locally based servers, he says,

"the pipe is bigger and cheaper."

One question is whether India's government will allow the traffic to flow. **CloudFlare**, a data center operator based in San Francisco, avoided India for years because of worries about government policies toward foreign companies. "We heard horror stories," says CEO Matthew Prince. "For a very long time we saw a huge amount of customer demand, but we were spooked a little bit by the regulatory risk." The pro-business rhetoric of Prime Minister Narendra Modi, who took office in mid-2014, encouraged CloudFlare to put those worries aside. Over the past seven months the company has opened three data centers in the country. Prince says India's rejection of Free Basics has introduced new uncertainty for foreign companies. "A lot of people are trying to figure out what will play out given what happened to Facebook," he says.

So far, the government isn't providing much reassurance. Although it's allowed Google and Microsoft to proceed with some trials, Telecommunications Department spokesman N.N. Kaul says the regulator isn't ready to say whether it will approve their plans to expand Internet access in the countryside. "Let the technology be ready for adoption by the country," he says. "Then we'll decide." —*Bruce Einhorn, with Bhuma Shrivastava*

The bottom line India's mobile data traffic may grow 13-fold by 2019, so foreign tech giants are learning to live with regulatory uncertainty.

Hardware

Europe Bets on Robots To Help Care for Seniors

▶ **Mechanical aides can pick up groceries and take out the trash**

▶ **"Ask the robot the same thing 10 times...it will never get annoyed"**

Retiree Maurizio Feraboli taps a grocery list into a tablet and sends wheeled robots to retrieve food from a store near his apartment outside Pisa, Italy. His neighbor Wanda Mascitelli directs robots to grab the trash from her kitchen and drop it

Accelerating time to value

into a dumpster on her street. A robot also warns Mascitelli about a possible gas leak and later brings her a glass of water and a bottle of vitamins.

These scenes are from a video promoting the European research project Robot-Era, which recently concluded

The commission has very clear goals around the use of robotics in the field of active and healthy aging."

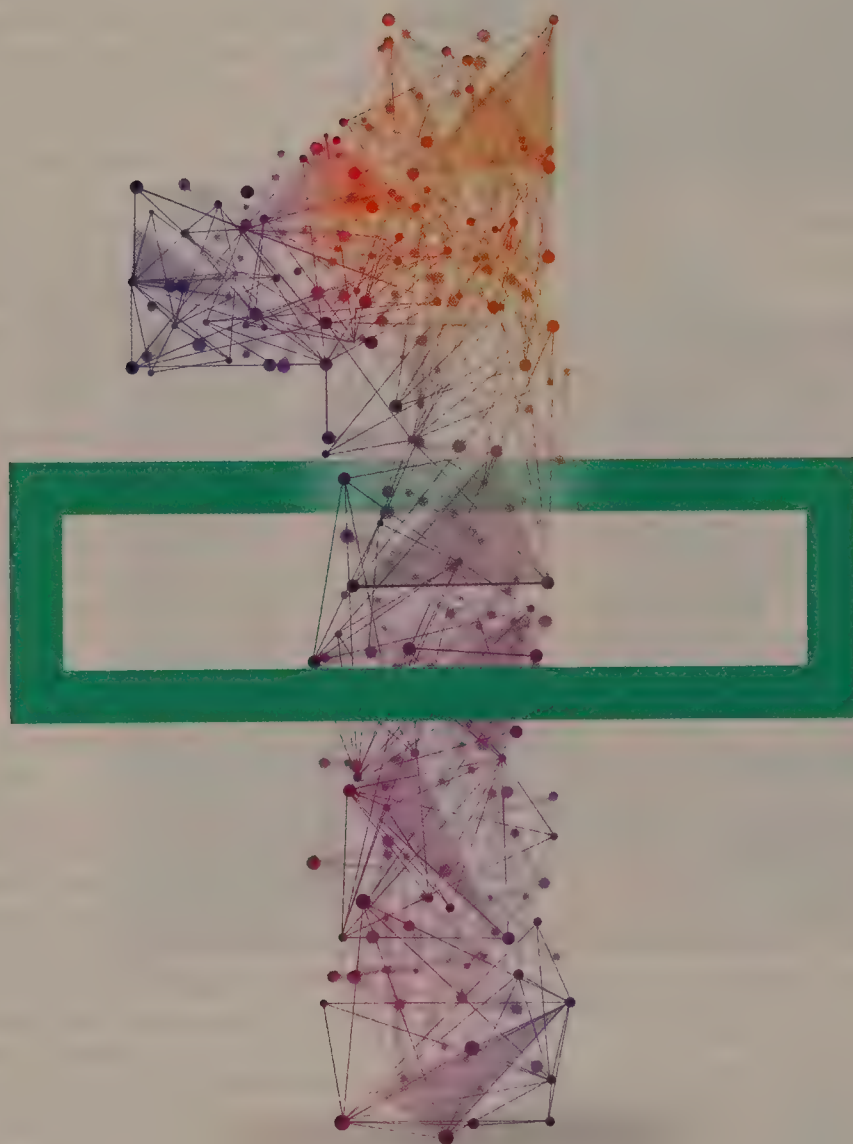
—Andy Bleaden, external evaluator for projects seeking European Commission funding

the world's largest real-life trial of robot aides for the elderly. About 160 seniors in Italy and Sweden tested the robots during the four-year project, which received €6.5 million (\$7.2 million) from the European

Commission and €2.2 million from partners including Italian manufacturer **Robotech** and Apple supplier **STMicroelectronics**. Now Robot-Era manager Filippo Cavallo and fellow professors at the BioRobotics Institute at the Sant'Anna School of Advanced Studies outside Pisa have started a company called **Co-Robotics** to commercialize the technology. "The robots in the video are ready" for more testing, says Cavallo, who plans to start selling them as soon as next year.

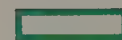
As part of a plan to strengthen the region's robotics industry, the European Commission is investing tens of millions of euros annually in technology to help the elderly. The projects may not be as sensational as Toshiba's android, ChihiraAico, which resembles a Japanese woman, or Honda's humanoid assistant, Asimo, but the results are on "the same level or even more advanced," says Uwe Haass, a former secretary-general of EuRobotics, a non-profit advocacy group in Brussels that works with the commission.

Backed by €4.3 million from the European Commission and partners such as **Siemens** and **Telecom Italia**, a project called Acanto launched in February 2015 to make robotic walkers that encourage seniors to exercise and socialize. About 100 seniors in Spain, Italy, and the U.K. will test the devices before the experiment concludes in 2018. The goal is to have a version of the walker for hospitals and a less expensive one for families priced for less than €2,000, says Luigi Palopoli, the University of Trento computer engineering professor overseeing the



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To encourage seniors to exercise and socialize, **Acanto** looks to sell a version of its walker to families for less than €2,000.

Spain

◀ project. “A walker that is a robot but doesn’t look like a robot” has a better chance of being accepted into everyday life, he says.

The European Commission has given €4 million to Mario, a group that’s developing robot companions for people with dementia. “You can ask the robot the same thing 10 times, and it will never get annoyed,” says Kathy Murphy, a professor at the School of Nursing and Midwifery at Irish university NUI Galway. She’s helping manage the research with partners such as French developer **Robosoft** and the U.K. town of Stockport. This summer, Mario will start pilot programs with seniors in Ireland, the U.K., and Italy. When the project concludes in 2018, the goal is to commercialize a “cost-effective

robot that health-care providers would wish to purchase” to help assuage loneliness and isolation and reduce health-care staff, says Murphy.

“The commission has very clear goals around the use of robotics in the field of active and healthy aging,” says Andy Bleaden, Stockport’s funding and pro-

grams manager and an external evaluator for projects seeking funding from the European Commission. Along with addressing a social need, he says, “the reason the EC is putting money on the table is to get ours to market faster than our competitors.”

That’s the goal of Vincent Dupourqué, the founder of Robosoft in Aquitaine, France, which makes the *Kompaï* robots

Mario is testing. A biomedical engineer who’s been working in robotics since the end of the 1970s, he plans to take *Kompaï* robots into commercial production next year and produce 10,000 units annually in 2020, selling them for €5,000 each. Because of the shortage of caregivers and snowballing interest in robotics from nursing homes and insurers, “this is the right

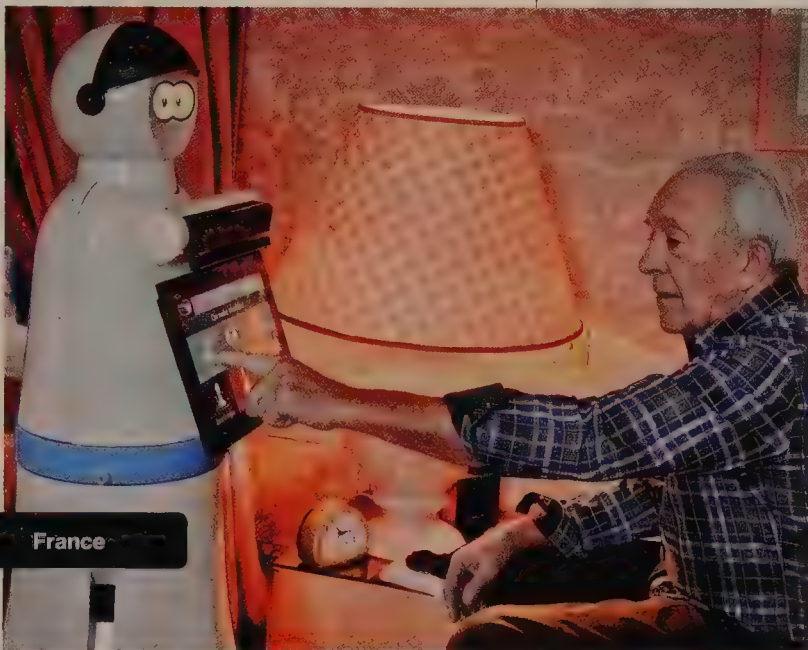
time to accelerate,” says Dupourqué.

Worldwide, manufacturers sold 4,416 elderly and handicap assistance robots in 2014, according to a fall report from the International Federation of Robotics in Frankfurt. IFR describes elderly care as a “major market of tomorrow” and projects sales will total 32,500 units from 2015 through 2018.

Proving robots can better seniors’ quality of life and reduce the cost of caring is crucial to developing the market, says Anne Gradwohl, innovation director at Intérieure, a Paris-based insurer that tested *Kompaï* robots in a handful of elderly clients’ homes last year. Participants “realized robotics is not dehumanizing the relationship,” she says. “They realized robots aren’t there to replace caretakers” but to complement them and “give peace of mind to their families in case of an emergency.” Gradwohl, who says other insurers are investing in robotics companies focused on the elderly, is planning a second round of in-home testing with *Kompaï* robots. That will last 6 to 12 months with a larger group of clients who need daily assistance. “We don’t consider robotics an answer to everything,” she says, “but it can help people stay at home longer with security at an affordable price.”

—Nick Leiber

The bottom line By one estimate, 32,500 robots designed to help care for the elderly and disabled will be sold from 2015 through 2018.



France

By 2020, **Robosoft** plans to produce annually 10,000 *Kompaï* robots, designed for people suffering from dementia.



Italy

A robot being tested by **Robot-Era** has been programmed to accompany a woman to the dining room at a nursing home in Florence.

E-Commerce

Instacart, Brought to You by Red Bull

▶ The startup wants to boost revenue but not prices

▶ “Time also has value, but people don’t see it that way”

Online shoppers hate paying delivery fees. So **Instacart**, which brings groceries to your door the same day you order them, is getting manufacturers to foot the bill. The company is working with **General Mills**, **Nestlé**, **PepsiCo**, **Unilever**, and other consumer-goods makers to help cover the cost

Accelerating analysis

of delivery or provide other discounts when customers buy their products. In addition to giving out coupons, the companies pay to advertise on Instacart's website. Those payments account for 15 percent of Instacart's revenue, according to Apoorva Mehta, the company's chief executive officer.

Shoppers can find discounts when filling their carts with brands such as

\$2

billion

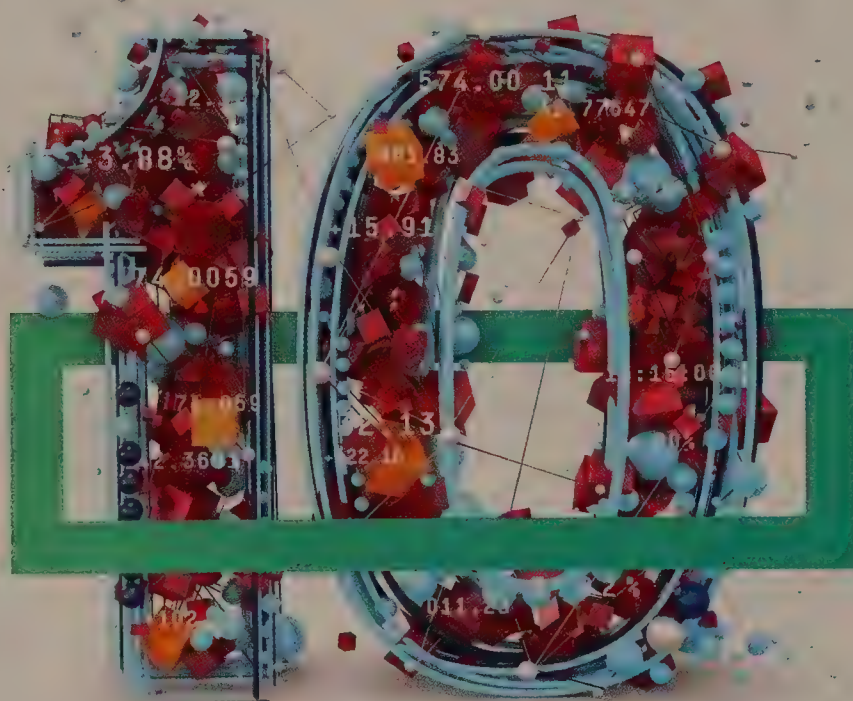
Valuation of Instacart when it raised money from investors late last year

Degree, Doritos, DiGiorno, Quaker Oats, and Häagen-Dazs. Sample Instacart ads offer \$1 off Dove soap or free delivery if you spend \$10 on Red Bull. Mehta likens the ads to those that appear along-

side Google search results. "It's like AdWords for groceries," he says.

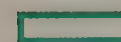
Instacart says the cost of delivering an order is much higher than the \$5.99 it charges shoppers, but customers are unwilling to pay more. The company tried to make up some of the difference by selling products for more than what the grocery stores charged. Customers complained, and Instacart stopped charging higher prices on most products. The company recently cut pay for some workers, according to reports on websites Quartz and Re/code. Instacart says it "reduced variability" in pay for its shoppers. "People resist paying for delivery, because in their minds, it's something they previously paid \$0 for when they picked up their own groceries," says Nir Eyal, an author who studies how people form habits around technology. "Of course, that's silly because time also has value, but people don't see it that way."

Other e-commerce companies have their own approaches to the problem. **Amazon.com** lures repeat customers to its \$99-a-year Prime membership with fast, free delivery. Its upstart rival, **Jet.com**, offers discounts to shoppers who order in bulk, which reduces delivery expenses. **Postmates**, a startup that typically charges as much as \$10 for delivery from restaurants, reduces that to \$2.99 or \$3.99 when a restaurant pays the company a commission of 15 percent to 20 percent on the order. More than 35 percent of orders



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Innovation

Vital Signs Sticker

Form and function

The disposable VitalPatch from Silicon Valley startup Vital Connect combines a temperature sensor, single-lead electrocardiogram, accelerometer, and processor in a Band-Aid-like monitor for patients at home or elsewhere.

Innovator Nersi Nazari

Age 57

Title Chief executive officer and co-founder of the 80-person company based in Campbell, Calif.



Affix The VitalPatch, which weighs 11 grams and is 0.3 inches thick, is affixed to a patient's chest. Its copper plate picks up heat and electrical signals, while the foam enclosure keeps out moisture.

Origin Nazari, a veteran chipmaking executive, founded Vital Connect in 2011 with fellow chipmaker Steve Zadig, who brought him the idea of a disposable vital signs monitor.

Market Berg Insight estimates that 36 million patients will use Internet-connected home medical monitoring by 2020, up from 5 million last year.

Funding The company has received about \$50 million from investors and one of its suppliers it wouldn't name.

Price Vital Connect says it can make its proprietary chip for about \$1. It expects to charge less than \$100 for the complete device.

Monitor The zinc-battery-powered processor records EKG, heart and respiratory rate, skin temperature, and step count for up to four days. (It can also detect falls.) Via Bluetooth, the patch sends data to a doctor's or caretaker's mobile device.

Next Steps

On March 3, U.S. Food and Drug Administration-approved VitalPatch launched as a prescription medical device, distributed under the Vital Connect brand as well as those of partners including Philips. Nazari says the company is raising an additional \$30 million to advance its sensor development. "This is where we're going," says Donna Spruijt-Metz, director of a mobile health research group at the University of Southern California. "We need small sensors—wearable, implantable—that do more than one thing." —Michael Belfiore

◀ come through partner restaurants, Postmates says.

To help cover delivery costs, Instacart looked to retailers such as **Whole Foods Market**, **Costco**, and **Target**. Once stores partner with Instacart, the formula shifts. Most partners choose to list items for the same price online as in stores. To compensate Instacart for the increased sales volume the site drives to them, the stores pay the e-commerce company a commission on every item sold through its site. Instacart declined to say how much or what percentage of revenue those fees account for.

The company counts at least 100 retailers as partners, up from 30 a year ago. The "vast majority" of Instacart's sales are through partner stores, says Vishwa Chandra, vice president for retail accounts. One partner has been particularly eager to do business with Instacart: Whole Foods plans to invest in the delivery startup and sign a five-year agreement, *Re/code* reported last month. Instacart declined to comment on the deal.

The company says the newer business arrangements are helping it bolster profit margins. Delivery fees paid by customers now make up less than half of total revenue, which grew fivefold in the past year. Instacart says it's "profitable" in four cities, including its two biggest, San Francisco and Chicago, and that 40 percent of its volume is profitable—meaning most orders lose money. It also says it will be profitable overall by summer. That comes with a major caveat: Its calculation for profitability doesn't include the cost of office space, executive salaries, and some additional staff expenses.

Instacart has raised \$275 million from investors since its debut in 2012 and was valued at \$2 billion by investors at the time of its most recent fundraising late last year. The company is confident it can grow into a sustainable business—so much so that CEO Mehta says he doesn't plan to raise venture capital again. —Ellen Huet

The bottom line To offset the cost of delivery, Instacart is seeking a sales commission from partner retailers.

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March 21 — March 27, 2016

FREE-RANGE QUANT



► With cheap data and software, machine-based investing is open to anyone with the math chops

► “Democratization of tools doesn’t necessarily mean...democratization of good judgment”

Clay pottery decorates the halls of a thatched, single-story adobe home in the desert town of Las Cruces, N.M. Out back, where scrub brush stretches into the arid plain between the mountains and the Rio Grande, is a 50-foot-tall wireless Internet tower.

Roger Hunter is in the kitchen, grinding hand-roasted coffee beans. The 66-year-old former math professor turned investor apologizes if he appears a bit out of sorts. As chief technology officer of a two-man startup called **QTS Capital Management**—his partner lives in Canada—Hunter pulled an all-nighter fixing a systems glitch.

It’s a long way from Wall Street, but for Hunter and investors like him, being apart from the frantic activity

of New York is an advantage. “This is particularly true when developing code and exploring new strategies,” he says. His strategies are all automated and might include trades on anything from currencies to hog futures to options on market volatility.

With little more than open source software and an Internet connection, Hunter is one of a new breed of traders breaking into quantitative investing. Quants, as they’re known, crunch a dizzying amount of data from across global markets and write programs to trade on the patterns they spot in asset prices. Powerhouse firms such as **AQR Capital Management** and **Citadel** have used fast computers and closely guarded algorithms to try to beat the

market, and analysts estimate the 40-year-old industry runs more than \$1 trillion in assets. Now low-cost, high-powered technology is razing virtually every barrier to entry.

The rise of DIY quants comes as the proliferation of machine-based strategies has made it harder for traditional players to succeed. In January, Martin Taylor of Nevsky Capital closed his 15-year-old hedge fund, lamenting the distorting influence of computer traders. But established quants, too, are feeling the heat. “Technological edge is harder to come by because the more egalitarian these tools have become, the more difficult it is to come up with something truly new,” says Andrew Lo, a finance professor at MIT and ►

◀ chairman of AlphaSimplex Group, a quant research firm.

In other words, the growth in traders using quant strategies also tends to diminish easy profits, says David McLean, a finance professor at DePaul University. He cites research showing that three years after an academic paper on an automated strategy is published, returns based on that

\$1

trillion

Estimated assets
invested in
quantitative
strategies

strategy fall by more than half as more traders catch on. Meanwhile, as more quant traders vie for an edge, some envision a world where so many algorithms are unleashed on electronic markets that sudden

shocks—such as August’s meltdown in U.S. stocks—become more frequent.

While it’s difficult to know precisely how many quant startups there are, **Quantopian**, a Boston-based firm that provides coders the tools and software they need to build quantitative trading programs, has seen its user base climb to 66,000 from 1,570 in 2011, the year it started.

Open source coding languages such as R and Python, which are building blocks for critical number crunching, are posted for free on online libraries. Boutique services such as Estimote provide crowdsourced earnings estimates. “There’s so much data, so much open sourced software and computing power available,” says Emanuel Derman, director of Columbia University’s financial engineering program and the former head of quantitative risk strategy at Goldman Sachs.

Back in Manhattan, the elite hedge funds still rule, having built up the

status and the reputation that come with years of outsize returns. **Point72 Asset Management’s** Midtown-based quant business, with its large glass conference rooms and white walls adorned with founder Steven Cohen’s personal art collection, looks and feels nothing like a startup.

And according to Ross Garon, the head of Point72’s quant shop, big firms have little to fear from smaller competitors. They still have the best technology and brightest minds (not to mention the most money). “The democratization of tools doesn’t necessarily mean there’s the democratization of good judgment of what to research,” he says.

Despite those disadvantages, Hunter and his partner, Ernie Chan, who works from Niagara-on-the-Lake in southern Ontario, have held their own. QTS returned 12 percent last year, outstripping the U.S. stock market and the average for hedge funds globally. It runs \$22 million for individuals and one large family fund.

To keep costs low, QTS uses a service called AlgoSeek to get access to price data for futures, pulling in an “astronomical” amount of information for \$500 a month. Hunter himself wrote the code that QTS’s options trade on. The firm employs part-time contractors and uses tools such as Amazon Web Services to augment its computing capacity when a laptop won’t do the trick.

Billion-dollar-plus firms might not worry about two guys running a few million dollars. But “there’s a threat they’re missing,” says Dan Dunn, who oversees product management and membership at Quantopian. “The reality is there are brilliant people all over the world who they have never seen or heard of until they show up and eat their lunch,” Dunn says.

Quoted

Then again, all those brilliant minds sometimes trip over one another. JPMorgan Chase’s Marko Kolanovic pointed to the role of crowded quant trades in the events of August, when U.S. stocks plummeted 11 percent in six days. Many blamed China and the Federal Reserve. Kolanovic told clients automatic selling by “price-insensitive” quants made everything worse.

Where Kolanovic sees danger, Hunter senses opportunity. On any given day, he tests 10 different models while executing eight strategies for clients. He and Chan are considering developing code to profit from distortions that show up in managed futures when too many quants trade the same strategies. “We’ve thought about trying to take advantage of it, certainly if the algorithm is clearly affecting the market,” Hunter says. —*Dani Burger*

The bottom line Computer-driven trading strategies are easier than ever to execute, but that may chip away at their profitability.

Careers

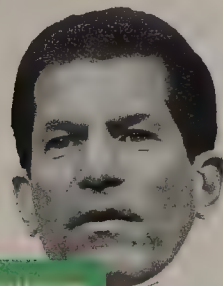
Coming Home to China From Wall Street

► Chinese-born financial pros find new opportunities

► “In a mature market like the U.S., you have to wait for a long time”

For Shiwei Zhou, it was partly about the obligation he felt to join co-workers for after-work drinks and talk of ice hockey. William Su felt his career was stuck after four years in the same role. QJ Guo wanted to live closer to his parents.

All three are among the many



At Apple, Jon Rubinstein helped create the iPod. He’s been named co-CEO of Bridgewater Associates, the world’s biggest hedge fund manager.

“Jon worked with Steve Jobs. I think he can handle Ray Dalio.”

Roger McNamee of Elevation Partners, which invested in Palm when Rubinstein was executive chairman of the board



Bridgewater founder Dalio runs the company on 210 principles. No. 210: Don’t try to please everyone.

Chinese Wall Streeters who've decided to go back to their home country. They were drawn to the U.S. to study at top business schools or earn salaries they could never get in China. Now, U.S. firms are cutting bonuses and positions. And while financial concerns are mounting in China, many of these ambitious expats say they were hitting a career ceiling in the U.S. Meanwhile, China's economic growth, while slowing, is shifting into areas that could benefit bankers.

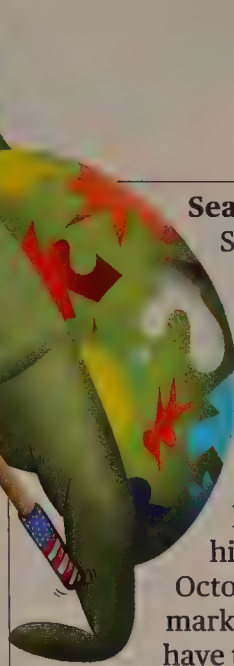
China is developing beyond labor-intensive manufacturing, which means "a huge demand for good brains," says Cao Huining, a professor of finance at the New York campus of Beijing's Cheung Kong Graduate School of Business. "A lot of people see better career paths in China than in the U.S., where they probably could just make a mediocre living," he adds.

The Chinese have a name for returnees: *hai gui*. In Mandarin the phrase means "return across the sea," and also sounds like the word for sea turtles. The turtles of finance first started swimming back in 2008, when Wall Street erupted in crisis. They were prized in China for their understanding of both Western business practices and the nuances of Chinese culture. Some joined China's financial regulators.

The latest round of returnees faces a different environment. The government is encouraging entrepreneurship, and the country has created some of the world's most valuable startups, including smartphone manufacturer **Xiaomi** and peer-to-peer lender **Lu.com**. Venture capitalists poured a record \$37 billion into China last year.

Chinese lenders are scrambling to expand their trading desks as the yuan moves fitfully toward becoming a global currency. The International Monetary Fund recently added the yuan to its basket of reserve currencies, a move Barclays estimates could increase global demand for the yuan by as much as \$300 billion by 2020, even though the currency has weakened since August.

"In China, the sky is the limit," says Su, executive director at **First**



Seafront Fund in Shenzhen. Su got an MBA from the University of Rochester. After four years as a Vanguard Group analyst in Pennsylvania, he sold his two-story house and moved his family to China in October. "In a mature market like the U.S., you have to wait for a long time for opportunities," he says. "I didn't know when my turn would come."

And then there's all that ice hockey talk. "It is just very hard to crack that because you don't grow up in that kind of culture," says Zhou, 40, who worked as an equities analyst at Manning & Napier in New York and Green Street Advisors in California. "How many Chinese play such sports?" He has joined **Ctrip**, China's biggest online travel company.

Guo, 29, worked as an analyst for two years at CBRE Group, the world's largest property services company. Like many Chinese, he's an only child and wants to be near his parents as they age. Now he's with a state-owned insurance firm in Shanghai.

None of the men complained of discrimination, although they felt it was easier for Americans to advance in the U.S. Statistics suggest there are barriers to top jobs for people of Asian descent. Asian Americans, some 6 percent of the U.S. population, make up only 2.6 percent of the corporate leadership of Fortune 500 companies, according to a study by DiversityInc.

Meanwhile, the offers in newly wealthy China are increasingly attractive. You can get housing subsidies and even a driver "if you are a top talent in the market," according to Zhu Yiyong, director of human resources at Ping An Securities. The company will add as many as 30 jobs from overseas recruitment this year, Zhu said at a job fair in New York in November.

The picture isn't entirely rosy, not only because some returnees must take care of aging parents. A stock market rout last summer wiped out more than \$5 trillion. The government targeted the finance industry with arrests and investigations. Some experience a minor culture shock. "I'm used to the

American style of planning ahead," Su says. Meetings in China are often impromptu, "and people tend to be late," he says. He also notes that house prices in Shenzhen rose 50 percent in the past year.

Tony Wan, a Chengdu native who worked as a quantitative analyst in New York until recently, says he doesn't worry about the change. "The chaos is a good thing, because it means more opportunities," Wan says, declining to name his new employer.

Still, not all sea turtles have swum back for good. About 5 percent of them will go abroad again because they'll find it harder to fit into their home country than they realize, according to recruitment consulting firm Michael Page. Some will spend their time between their two countries. These people have their own name—seagulls, meaning those who remain uncertain which country is their home. —Bonnie Cao

The bottom line China's economy is slowing, but its financial sector has boomed. Chinese with Wall Street experience are in high demand.

Art Market

A Billionaire, an Insider, And a Lost Leonardo

► A European art scandal comes to the U.S.

► Fraud? Or "a commercial dispute over paintings"?

As a restorer carefully removed overpainting and yellowed varnish on the painting of Christ, a lost masterpiece was revealed: the *Mona Lisa* mouth, the subtle brushwork, the gossamer glaze. The world learned in 2011 that the painting was the work of Leonardo da Vinci. *Salvator Mundi* later sold for \$127.5 million, in a transaction that's become part of one of the biggest art scandals in decades.

The dealer Yves Bouvier, one of the art world's consummate insiders, has for months been battling with the Leonardo's buyer, Dmitry Rybolovlev. The Russian billionaire spent, by his own count, more than \$2 billion on almost 40 works purchased through Bouvier over

◀ the past decade. Rybolovlev has alleged, in a complaint to authorities in Monaco, that Bouvier not only collected a fee for his art sales but also misrepresented the price at which sellers were willing to give up their works—pocketing, in some cases, what amounted to an undisclosed markup of tens of millions of dollars.

Now, U.S. federal prosecutors, following the lead of European authorities, have opened an inquiry into Bouvier, according to people familiar with the matter. Bouvier, who operates out of the Geneva Freeport, a vast, tax-free complex of warehouses for art and valuables in the Swiss city, has said that he's done nothing wrong and that he charges what the market will bear.

One work in question is Modigliani's *Reclining Nude With Blue Cushion*, which Rybolovlev bought for \$118 million from hedge fund manager Steven Cohen. Rybolovlev later discovered, during a lunch in St. Barts with one of Cohen's dealers, that Cohen sold the work for \$93.5 million.

The probe by the U.S. Department of Justice marks the first time federal authorities have gotten involved in a scandal that's shaken Europe's notoriously private ecosystem of art dealers, middlemen, and collectors. U.S. prosecutors are examining various art deals Bouvier struck, focusing on the extent to which he may have misrepresented how much he'd marked up artworks, people familiar with the matter say.

"We have not been contacted by the U.S. authorities and are unaware whether—or how—any such inquiry has been initiated," says Daniel Levy, an attorney for Bouvier. "During the course of this commercial dispute over paintings, the other party has repeatedly attempted to use law enforcement to further his own private objectives."

Levy pointed to Rybolovlev's attempt in Singapore, where Bouvier is a resident, to freeze the dealer's assets. An appeals court there denied Rybolovlev's request, calling such an injunction "an abuse of the court's process." The court wrote that there may be a "good arguable case" that Bouvier acted dishonestly, but also that Rybolovlev and his representatives "received what they bargained for and at the price they were willing to pay." It wasn't clear, the court wrote, whether Bouvier had characterized himself to Rybolovlev as a

broker, bound to look out for his client. A spokesman for Rybolovlev declined to comment, as did a U.S. Justice Department spokesman.

After Rybolovlev filed his complaint, Monaco police arrested Bouvier in February 2015 as he entered the lobby of Rybolovlev's residence. He was released on bail. Bouvier denied the allegations that he'd misled Rybolovlev about the prices of works he was buying. In November a Monaco appeals court rejected Bouvier's request to have criminal charges against him dropped.

According to the Monaco complaint, a Rybolovlev trust paid about \$50 million more for the Leonardo than he alleges the seller received. However the dispute ends, Dianne Modestini, the restorer who helped bring the work to light, laments that it's disappeared from public view, a common complaint when a work is acquired by a private collector. "When you own a painting such as this, you have a responsibility to hold it as part of the public trust," she says.

—Keri Geiger and Hugo Miller

The bottom line Federal prosecutors are taking an interest in a dispute over whether an art dealer profited by marking up prices.

Compensation

Oil Market Madness Hits Coaches' Pay

▶ Bonuses at the University of Arizona are paid in energy stocks

▶ "In this case, it hasn't worked out for the coaches"

Like many big-time sports schools, the University of Arizona gives its football and basketball coaches longevity bonuses to reward them for staying in their jobs a certain number of years. These can be worth millions of dollars. In a twist unique to the Wildcats, those incentives are tied to the price of oil.

That means **Sean Miller**, whose men's basketball team was set to play in the opening round of the NCAA

Modigliani's *Reclining Nude With Blue Cushion*

tournament on March 17, and Rich Rodriguez, who led the football team to the Gildan New Mexico Bowl, are in a strange situation for successful coaches: Their bonuses have been losing value. Crude, which reached more than \$90 a barrel in 2014, has crashed to \$36. The first part of Rodriguez's longevity payout, due in mid-March, is likely worth about \$907,000, 41 percent less than the paper value of the bonus in 2014. In full, the bonus plan for each coach is probably worth \$3.6 million, down from \$6.2 million.

Arizona isn't a major oil producer, so how did a public university's coaches' pay end up linked to energy prices? The bonus structure was put into place two years ago after the school received an anonymous donation of 500,000 shares of a master limited partnership. An MLP is a tax-advantaged, publicly traded company that operates pipelines and other energy industry equipment. Miller and Rodriguez each received 175,000 shares, worth \$6.2 million at the time.

Athletic Director Greg Byrne got 100,000 shares, worth \$3.5 million. The name of the donor is redacted from public records and wasn't released by the university. However, the records show a price of \$35.36 for the donated shares on May 12, 2014, which strongly suggests one company: **Western Refining Logistics**. Jeff Stevens, the company's president and chief executive officer, is an Arizona alumnus, and in 2009 he donated \$10 million to help fund the school's facilities plan, at the time the largest athletics gift in the school's history. The MLP traded at \$20.74 on March 15. Stevens declined to comment.

Arizona had good reason to get creative with its pay plan. Athletics departments are typically among the richest corners of public universities, but salaries are growing faster than

Bid/Ask

By Kyle Stock



\$759m

Campari mixes with Grand Marnier. Davide Campari-Milano, the Italian distillery behind many a Negroni cocktail, bought Société des Produits Marnier Lapostolle, an almost 200-year-old French company known for its orange-flavored liqueur. The pairing gives Campari a greater slug of the craft cocktail market. Campari's portfolio also includes stiffer drinks such as Wild Turkey and Skyy Vodka.

\$13b



A Chinese insurer tries to book Starwood Hotels & Resorts. The bid from Anbang Insurance could scuttle the company's pending sale to Marriott International.

\$6.8b

Asciano picks both sides. Qube Holdings and Brookfield Infrastructure Partners each bid for the rail and port operator. Asciano agreed to a joint takeover.

\$1.4b



Apollo Global Management buys Fresh Market. The North Carolina-based grocer operates 186 stores. It's struggled recently to compete with larger rivals such as Kroger and Safeway.

\$1.1b

FleetCor Technologies buys a Brazilian toll taker. Sem Parar has more than 4.5 million people and businesses using its network to pay for tolls, parking, and gas.

\$750m



Sony buys out Michael Jackson's estate. The company bought the late King of Pop's 50 percent share in a music catalog, including rights to songs by the Beatles, Lady Gaga, and Sting.

\$622m

Vectura Group buys Skyepharma. Both companies, which agreed to an all-share deal, specialize in treatments for asthma and breathing difficulties.

\$240m

Hertz repositions in China. It sold almost all of its 10 percent stake in Car, the country's largest car rental company. Car will use the Hertz brand at its 700 locations until 2024.

other forms of spending. By using the donated MLPs, the school was able to shift some of the risk of guaranteed compensation onto the coaches, says Chad Chatlos, a principal in the sports practice of executive search firm Korn Ferry. In exchange, the coaches had a chance at a bigger reward.

"Unfortunately in this case, it hasn't worked out for the coaches," Chatlos says. Miller, Rodriguez, and Byrne were unavailable to comment on the bonus structure, according to Arizona athletics spokesman Jeremy Sharpe.

In theory, the deal could have been a winner for both sides. Arizona was in a position to keep the distributions the MLPs paid over the course of the coaches' tenures and was also giving them an incentive to remain in Tucson. If they stayed, the coaches could look forward to a big payday at the end of their contracts. Rodriguez's name was floated for a number of jobs last year, including some with higher salaries. He chose to stay put.

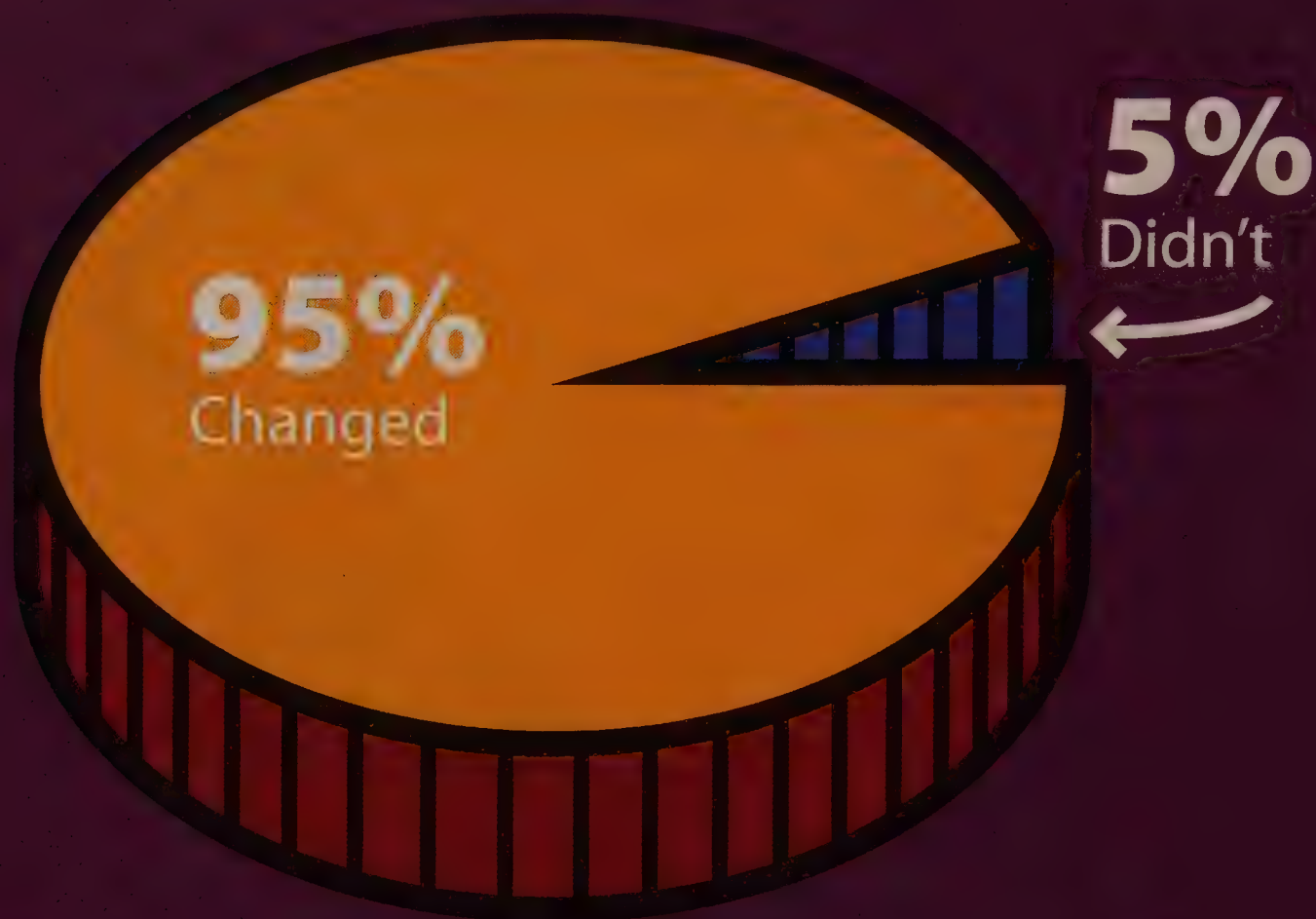
Several Division I athletic directors say they had never heard of such a bonus structure. Or if they had, they say they wouldn't consider it for their own coaches. "In the world of higher education, many outside-the-box ideas need very close scrutiny," said Bill Battle, athletic director at the University of Alabama, in an e-mail.

In the original Arizona deal, the MLP shares were set to be converted to cash and paid out only if the three men were still employed by the university at the end of March 2022. One year into the agreement, they all signed new deals that, among other things, changed the payout schedule. Byrne and Miller will get their final payouts two years earlier, in 2020. Under his contract, Rodriguez will receive his bonus in fragments, starting with 25 percent this month.

The ultimate value of the bonuses will be determined over the next four years. Should oil rebound, there's time for all three to make back the lost amount and then some. But there's also the possibility the payouts will become even smaller. —*Eben Novy-Williams and Brandon Kochkodin*

The bottom line Big-time college coaches are expensive, so Arizona got creative by paying them with donated energy-company shares.

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Focus On/ MBA

What it'll take to
boost female
enrollment 50

Recruiting abroad to
make up for waning
interest at home 52

March 21 — March 27, 2016

WHO NEEDS ONE?

Ginni Rometty, IBM
B.S., computer
science and electrical
engineering,
Northwestern

Larry Ellison, Oracle
Dropout, University of
Illinois at Urbana-
Champaign

Mark Zuckerberg, Facebook
Dropout, Harvard

Devin Wenig, eBay
J.D., Columbia Law
School

Marc Andreessen, Andreessen Horowitz
B.S., computer
science, University of
Illinois at Urbana-
Champaign

Brian Krzanich, Intel
B.S., chemistry,
San Jose State
University

Jeffrey Bezos, Amazon.com
B.S., engineering,
Princeton

Larry Page, Alphabet
M.S., computer
science, Stanford

Marissa Mayer, Yahoo!
M.S., computer
science, Stanford

Travis Kalanick, Uber
Dropout, University of
California at
Los Angeles

Marc Benioff, Salesforce
B.S., business
administration,
University of
Southern California

Jack Dorsey, Twitter
Dropout, New York
University

▶ Never mind the trash talk. More tech companies are hiring MBAs

▶ "Firms wouldn't keep coming back...if it wasn't a valuable skill set"

Meg Whitman,
Hewlett Packard
Enterprise
MBA, Harvard

PayPal co-founder Peter Thiel said MBAs are predisposed to “herdlike thinking and behavior.” Venture capitalist Marc Andreessen dubbed them a contrarian indicator, saying “if they want to go into tech, that means a bubble is forming.” In a post on the question-and-answer website Quora, **Facebook** Chief Operating Officer Sheryl Sandberg, who earned an MBA from Harvard in 1995, said that while she got “great value” from her experience, she wasn’t ready to recommend the degree to the country’s future tech stars. “MBAs are not necessary at Facebook and I don’t believe they are important for working in the tech industry,” Sandberg wrote.

Silicon Valley’s trash talking of the MBA obscures the reality that U.S. tech companies are hiring B-school grads in ever-larger numbers. Business schools sent 16 percent of their 2015 graduates into technology jobs, according to a *Bloomberg Businessweek* survey of students who’d accepted offers by that spring, making it the No. 3 industry for MBA grads after finance and consulting.

By one measure, Silicon Valley values MBAs more than Wall Street does. In 2015 tech companies paid business school graduates more than financial companies did, according to *Businessweek*’s poll of more than 9,000 MBAs. “If I said all people with a law degree are worthless, what would you say?” says Rich Lyons, dean at the University of California at Berkeley’s Haas School of Business. Forty-three percent of its 2015 class went into tech, according to the survey. “It’s such an unwarranted generalization. Firms wouldn’t keep coming back to hire our MBAs if it wasn’t a valuable skill set.”

Amazon.com, **Microsoft**, **Google**, and **IBM** were among the 15 companies that hired the most MBAs in 2015, according to data reported by 103 business schools to *Businessweek*, proof

that while the founders and chiefs of some of the top U.S. tech companies may see themselves as renegades, they’re not above

hiring trained managers to carry out their vision.

While a degree in computer science—or the lack of any degree at all—may confer a high mark of distinction, the Valley’s C-suites are packed with MBAs. Twenty-four of 67 companies in the S&P 500’s Information Technology Sector Index are led by chief executives with MBAs or equivalent degrees. Among those CEOs are **Apple**’s Tim Cook (Duke’s Fuqua School of Business) and Microsoft’s Satya Nadella (Chicago’s Booth School of Business).

In the eyes of Keith Rabois, an investment partner at the VC firm Khosla Ventures, the presence of MBAs at a tech company is a sign the business is mature, maybe even over the hill. “They tend to get hired after the company is already successful and it becomes a very bureaucratic organization,” says Rabois, an early employee at PayPal who later founded the real estate startup Opendoor. “They will probably keep you out of trouble, but they won’t create any value.”

The idea that MBAs don’t belong at startups has become a Valley meme. Guy Kawasaki, a onetime Apple employee turned venture capitalist, once quipped that in valuing a young company, he adds \$500,000 for every engineer on staff and subtracts \$250,000 for every MBA. Kawasaki has an MBA from UCLA.

“I don’t buy into the argument that entrepreneurs don’t need an MBA,” says Sri Zaheer, dean of the University of Minnesota’s Carlson School of Management. “If they were a little more clued up about how to make money in their businesses, we wouldn’t see these tech bubbles and the craziness that happens every few years.”

Twenty-four percent of 157 startups valued at \$1 billion or more—frequently referred to as unicorns—were founded by MBAs, according to a recent study published by David Fairbank, a student at Harvard Business School. They include eyeglass retailer **Warby Parker** (all four founders attended the Wharton School), medical directory **ZocDoc** (Columbia Business School), and health insurer **Oscar**

(HBS). “A unicorn is not necessarily the end-all measure of long-term successful companies, but it’s a pretty good metric for thinking big,” says Fairbank.

Business schools worry the MBA-bashing may discourage potential applicants. The degree appears to be losing some of its popularity, with enrollment down 11 percent since 2009, according to a survey of 265 business schools by AACSB International, an accrediting organization. “When you used to think about good business leaders, you would think about a Jack Welch. Now you think of Zuckerberg, and that’s a really different association with graduate schools of business,” says Amy Hillman, the dean at Arizona State University’s W.P. Carey School of Business, where 43 percent of 2015 grads

went into technology.

Hillman says B-school grads will find even more opportunities at technology companies as investors become more discerning about the types of skills required to turn a good idea into a thriving business. “It used to be more risk-takers,” she says. “Today it’s a group of very sophisticated funders who are looking for very sophisticated business ideas.” —Natalie Kitroeff and Patrick Clark

The bottom line Almost one-fifth of B-school graduates in 2015 went into tech jobs, making the industry the No. 3 employer of MBAs.

Diversity

For Women, It’s a Matter of Timing

▶ Taking younger students would draw more female applicants

▶ “There’s no question that we would get more women in”

Today, women are almost as likely as men to fill the seats of medical school and law school classrooms. Yet the share of women enrolled in full-time MBA programs hasn’t risen above 32 percent in the past decade,

Tim Cook, Apple
MBA, Duke

Education's Gender Divide

Percentage of women enrolled, 2014-15

Law school

48.9%

Medical school

46.8%

Business school

31.9%

DATA: AMERICAN BAR ASSOCIATION, ASSOCIATION OF AMERICAN MEDICAL COLLEGES, AACSB INTERNATIONAL

according to figures compiled by AACSB International, an organization that accredits B-schools worldwide.

"There's a frustration on the part of a lot of women, and probably men, too, that we haven't made more progress," says Amy Hillman, the dean at Arizona State University's W.P. Carey School of Business.

In August the White House convened 150 leaders from top business schools and had them sign a pledge to take steps to boost female enrollment by cultivating potential applicants early on in their education and by offering more financial aid. "When business schools are missing out on a large share of female college graduates, they are missing out on an extremely large share of the top qualified college graduates," says Betsey Stevenson, a University of Michigan economist who served on President Obama's Council of Economic Advisers and helped lead the August summit. "If they want to continue to be a relevant part of the training in the 21st century, they are going to have to make changes that will make them more attractive to women."

Deans say business schools suffer from a unique timing problem. Unlike law and medical schools, which tend to enroll students soon after they finish college, the full-time MBA program is designed for people who've already proved themselves professionally. Elite B-schools typically prefer that applicants have about five years of work experience, which means the average MBA student is 30 years old at graduation, Bloomberg data show. Women in their late 20s who think they'll want

to have children at some point may feel they'd do better racking up career experience than taking two years off for business school. "You've got some prime childbearing years and prime career trajectory years, and I think we are seeing women who are not willing to come out of [the workforce]," says Arizona State's Hillman.

There's evidence that lowering the work experience requirement for applicants helps make classes more female. George Washington University School of Business mandates a minimum of two years, and 41 percent of its MBA students are women. Also, the same share of women and men enroll in specialized business master's programs, such as accounting and marketing, which often don't require any on-the-job experience, according to AACSB.

"If we decide to let women go straight through [to business school after college] and lower that bar, there's no question that we would get more women in," says Sarah Fisher Gardial, dean at the University of Iowa's Tippie College of Business. But at what cost? She and some other deans argue

The required five years of work experience may deter women who want to advance in their field before having children

that awarding the degree to younger students would make it less valuable. Students, they say, learn more when everyone in the classroom brings his or her work history to bear. Says Fisher Gardial: "You really are setting up a richer educational process, because the participants learn more from their fellow classmates."

Women may also have trouble seeing themselves at business school because the classes are overwhelmingly led by male professors. The pledge signed by the 47 schools in August also committed them to try to boost the number of women instructors. Bhagwan Chowdhry, a finance professor at the University of California at Los Angeles's Anderson School of Business, has argued that because of the limited number of women Ph.D.s in economics fields, a mandate to hire more women professors at business schools could end up lowering the caliber of faculty. Anderson's dean, Judy Olian, who says she's made hiring women professors a priority, counters: "If anything, our standards have risen."

To tempt women to take time out from their careers to pursue an MBA, ►



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◀ elite business schools have ratcheted up the amount of aid targeted to female applicants. In 2015, 36 MBA programs affiliated with the Forté Foundation, a consortium of B-schools and corporations that promotes the advancement of women in business, awarded \$18.5 million in scholarships to women, up from \$5.6 million in 2010.

“There is no better time to apply to an MBA program for a woman,” says Idalene Kesner, the dean at Indiana University’s Kelley School of Business. When Kesner’s daughter, who’s 26, mentioned she was thinking about business school, Kesner advised her to pounce. “My advice is, ‘Think now, think fast.’” —*Natalie Kitroeff*

The bottom line B-schools have made less progress than law and medical schools in boosting female enrollment, which is stuck at 32 percent.

Recruitment

The Selling of the American MBA

▶ **With U.S. enrollment down, B-schools are wooing foreigners**

▶ **They’re “compensating for any decline in domestic revenue”**

In December the University of Rochester’s Simon Business School introduced loans that don’t require co-signers for international students entering its full-time MBA program this fall. Simon is also cutting its tuition by almost 14 percent and strengthening career services to help foreign students land jobs. The school recruited in more than a dozen countries last year, holding events in Buenos Aires, Cairo, Taipei, and Istanbul, among other cities. The efforts reflect the school’s “very strong commitment to global diversity within its student body,” says Rebekah Lewin, assistant dean of admissions and financial aid at Simon, where about half of the 98 full-time MBA students in the class of 2017 are from overseas.

As the U.S. appetite for the MBA degree wanes, many of the country’s more than 700 B-schools are stepping up recruiting abroad, where regard for this American invention appears

undiminished. (Harvard was the first institution to offer an MBA, in 1908.) The number of U.S. citizens taking the main business school entrance exam, the GMAT, dropped by a third from the 2010 to 2015 testing years, which run from July 1 to June 30, while the number of foreign nationals taking the test rose almost 19 percent, according to the Graduate Management Admission Council, the organization that administers the exam. International candidates accounted for 58 percent of the applicant pool at full-time MBA programs in the U.S. in 2015, according to GMAC.

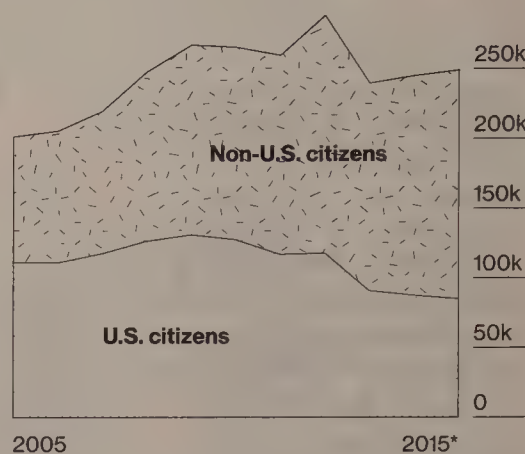
Nunzio Quacquarelli, chief executive officer of Quacquarelli Symonds in London, which helps business schools recruit abroad, says international students make up more than 35 percent of the class at over 50 of the 200 U.S. business schools he tracks, compared with just a “handful” a decade ago. Foreigners are “providing vital tuition revenue and compensating for any decline in domestic revenue,” he says.

Enrollment in U.S. MBA programs is down 11 percent since 2009, according to a survey of 265 B-schools by AACSB International, an accrediting group. Tom Robinson, AACSB’s president and CEO, attributes the trend to a shift away from the MBA to specialty masters in areas such as marketing and nonprofit management. AACSB’s data show an overall increase in enrollment if those are counted. “I’m not worried about it, because there’s always going to be some subset of the population that wants the generalist management education and wants to do it full time,” he says.

This is a starkly different outlook than that offered by Roger Martin, who led the University of Toronto’s Rotman School of Management for 15 years. Martin, who stepped down as dean in 2013 and now heads a research institute at the university, says U.S. MBA education is in “the declining phase of its long and relatively illustrious history.” He predicts that half of U.S. business schools may not be operating in 10 to 15 years, because there won’t be enough enrollment to support their “very bloated” cost structures.

Ramping up international admissions is a temporary fix, Martin says. And

Who’s Taking the GMAT?



*TESTING YEAR RUNS FROM JULY 1 THROUGH JUNE 30
DATA: GRADUATE MANAGEMENT ADMISSION COUNCIL

helping foreign graduates land well-paying jobs in the U.S., which is what most of them aspire to, may prove a big headache. A student from India doesn’t want to collect his degree, he says, and “go back to India to an Indian salary.”

Fabio Bergamo, a Brazilian who graduated from Columbia Business School last May, says getting permission to work in the U.S. has been a “disappointing” struggle. Even though his employer, a fashion overstock startup in New York, is sponsoring his work visa application, there’s no guarantee the government will grant it. “You come here, you study, you want to stay here, you have a company that wants you to work for them, and the lottery just might not pick you,” he says. “I’m in the dark if I’m going to be here after July.”

Prodigy Finance, the London-based lender that financed Bergamo’s degree, says international MBA seekers in the U.S. have become an important part of its business. It expanded into the U.S. in 2014, pilot-testing loans at the University of Michigan’s Ross School of Business and Columbia Business School. Last year it loaned about \$100 million in total, half to foreign students at about 45 top-ranked U.S. business schools. “There’s been huge growth in the U.S.,” says Ricardo Fernandez, the 75-employee company’s head of business development. “International students are critical to MBA programs.” —*Nick Leiber*

The bottom line In 2015 international candidates accounted for 58 percent of the applicant pool at full-time MBA programs in the U.S.

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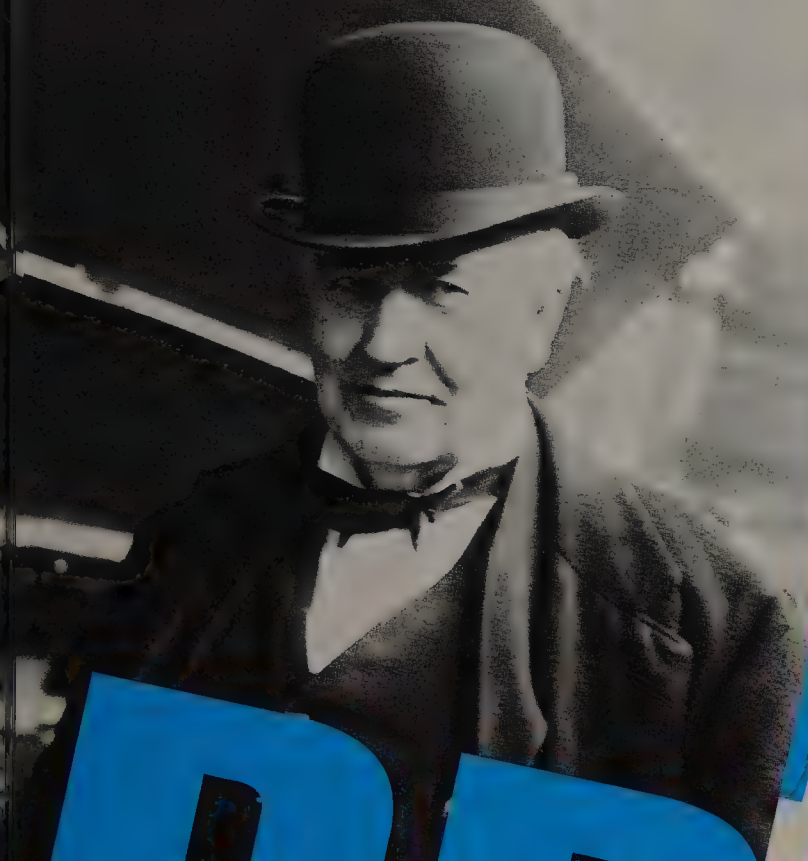
USC Marshall
MBA Programs



54

By
Devin Leonard
and Rick Clough

Jeff Immelt's plan
to turn around GE is
finally working



AND
BREAK
THINGS

OVERLOOKING THE HUDSON RIVER

in Ossining, N.Y., there's a grassy, 59-acre campus owned by General Electric. It's an executive training center where the

company holds management and leadership classes, some of them led by the chief executive himself. Jack Welch, who ran GE in the 1980s and '90s, would arrive by helicopter. He'd make his way to a windowless auditorium known as the Pit where a group of managers waited. They used to call him "Neutron Jack," because he was known for firing so many people that only the buildings were left standing. Neutron Jack and his executives would engage in an aggressive form of corporate group therapy, raising their voices as they aired their frustrations with the company and each other. Later, they would have drinks at the White House, the campus bar. It drove business magazines wild with excitement. "The class sits transfixed as Welch's laser-blue eyes scan the auditorium..." wrote *Businessweek* in 1998.

Today, GE executives—sorry, team members—take classes in yoga and meditation and *suminagashi*, the Japanese art of painting on still water. The White House has become a low-key place where visitors can sip artisanal coffee rather than martinis. The Pit has a window through which the sun shines.

It's part of a much larger transformation at GE orchestrated by Jeff Immelt, Welch's successor as chief executive officer. Most notably, GE is moving its headquarters from suburban Fairfield, Conn., land of golf and bonuses, where it's been since 1974, to Boston, the Athens of America. The company is selling off its division that makes refrigerators and microwave ovens. Now it's focused on electric power generators, jet engines, locomotives, and oil-refining gear. And it's made a significant bet on developing software to connect these devices to the Internet. There's a term for this trend of adding network connections to hardware not usually considered computers: the Internet of Things. GE believes its opportunity

lies in what it calls the Internet of Really Big Things.

In the past five years, GE has hired hundreds of software developers, created its own operating system, and fashioned dozens of applications that it says will make planes fly more efficiently, extend the life of power generators, and allow trains to run faster. GE's plan is to sell this software to other manufacturers of Really Big Industrial Things, and to be a top 10 software company by 2020. That would put it in the same category as Microsoft, IBM, and Oracle, an ambition that some have difficulty swallowing. "Top 10? No way," says David Linthicum, senior vice president of Cloud Technology Partners, a consulting firm in Boston.

GE is also revising its managerial rhetoric, something it's also historically produced in prodigious quantity. The company was officially founded in 1892 when Thomas Edison merged his operation with a rival electric light manufacturer. In the 1950s, CEO Ralph Cordiner promoted the theory of decentralization, which turned 120 business heads into mini-CEOs. In the 1970s, Reginald Jones championed "strategic business planning," which treated the company's many ventures as an investment portfolio. As a sloganeer, no one matched Neutron Jack's ferocity. He was an evangelist for Six Sigma, a numbers-driven quality-control method that he didn't originate but grabbed hold of and turned into a boardroom craze. He wanted GE to be a "learning enterprise" with "a boundaryless culture." He also called it "the greatest people factory in the world," one that welded together managers who could run anything from the plastics division to a television network. (Welch spent several years dispensing management advice in the pages of this magazine a decade ago, after retiring from GE.)

Immelt, who took over in 2001, tried to promote his own management methods. He brought in cultural anthropologists to study employee behavior. He tried to get his executives to submit "imagination breakthroughs" that would galvanize GE and generate growth. GE held "idea jams" to foster creativity.

Nothing seemed to work. GE's shares were mauled in the recession of the early Aughts. Meanwhile, its GE Capital division morphed into one of the world's largest providers of commercial real estate debt and aircraft leases. During the financial crisis of 2008, Immelt was forced to seek the protection of the Federal Depositary Insurance Corporation, which guaranteed about \$60 billion of GE Capital's debt. The same year, after GE missed its quarterly earnings projections, Welch declared during an appearance on CNBC that Immelt had "a credibility issue" and threatened to get a gun and shoot him if he did it again. The *Financial Times* reported that Immelt complained to a group in Washington that he had the misfortune of managing GE in a turbulent time. "Not only could anyone have run GE in the 1990s," Immelt grouched, "his dog could have run GE. A German shepherd could have run GE."

"People didn't think this management team would drive an aggressive transformation of the business. But that's exactly what's happening"

Immelt at GE's soon-to-be-former HQ in Fairfield, Conn.



By then, Immelt had seen the share price fall from \$60 in 2000 below \$6. GE was stripped of its triple-A credit rating by Standard & Poor's, and Immelt cut the dividend for the first time since 1938. In 2012 this magazine referred to Immelt's first 10 years as "GE's Lost Decade" and calculated that investors had seen a total return of zero during his tenure.

Inevitably, an activist took an interest in the struggling conglomerate. Last October, Nelson Peltz's Trian Partners revealed that it had purchased \$2.5 billion in GE shares, becoming its ninth-largest investor. In an 81-page analysis, Trian said GE had previously been an unfocused, overly bureaucratic muddle. But rather than call for a breakup of the company as Peltz has done in the past with DuPont and PepsiCo, he instead endorsed Immelt's strategy.

A year earlier, this would have been hard to believe, but by last fall, Immelt's program was beginning to succeed. He had announced a plan to shed \$200 billion of GE's problematic financial assets, which have weighed down its share price. The company says it had software sales of \$5 billion in 2015, a sign that the Internet-of-really-big-things approach must be taken seriously. And, by all accounts, Immelt's campaign to remake the company's intrinsically rigid culture is working. In the past year, GE's stock has outperformed the Standard & Poor's 500-stock index. "A lot of people didn't think this management team would drive an aggressive transformation of the business," says Steven Winoker,

an analyst at Sanford C. Bernstein & Co. "But that's exactly what's happening."

Immelt enters a conference room at GE's 53rd floor office in Rockefeller Center in New York. He's 60, 6 feet 4 inches with wavy white hair, and still exudes youthful confidence and self-deprecating charm. He's a former Dartmouth football player and fraternity president who once told this magazine that he won the Earl Hamilton Varsity Award for friendship and character, adding that it probably went to the campus beer-drinking champion.

Although he often wears jeans to the office, Immelt has a board meeting later this February morning, so he's dressed in a light gray suit, pink shirt, and green tie. After some breezy small talk, he starts going into GE's transformation, which began in the depth of the financial crisis. To hear him tell it, he didn't spend time second-guessing earlier decisions. "I never sat there and said, 'Oh, crap, why do we have so much commercial real estate?'" he says.

Instead, he started thinking about data. Many of GE's corporate customers were putting sensors on their machines to collect information about them. That often meant a lot of information: A jet engine, for instance, spits out roughly a terabyte's worth of everything from fuel usage to heat levels to the size of the specks of dirt that fly through the engine on a trip across America. What were GE's customers supposed to do with all that data? Immelt considered teaming up with a tech company to create software that would analyze vast amounts of the stuff, but when the tech company figured that out, what would it need GE for? He thought GE would be better off developing this software on its own. If nothing else, the company would be able to use the technology to improve its own productivity; if things went well, GE would be able to sell it as an add-on to service contracts with industrial customers. "I said, 'Look, we need to start building analytic capability, big data capability, and let's do it in California,'" Immelt says. "That was as sophisticated as my original thinking was."

His own knowledge of the software business was limited. Along with doing whatever it took to win a character award at Dartmouth, he graduated with a dual degree in economics and applied math in 1978. After getting his MBA at Harvard, he turned down a job at Morgan Stanley to work at GE. He ended up running the health-care division in the 1990s, which opened a software center of its own in Wisconsin. Because of that, he says, he knew enough to ask the right questions about software.

If GE was going to set up shop in Silicon Valley, Immelt wanted a local to run the operation. He went after William Ruh, then a vice president at Cisco Systems. Ruh was astonished to get a call from a recruiter who was coy with him about the company she represented, asking him to guess which one it might be. "I named a name, and she said no," he says. "And I named another name and she said no. She said, 'Name another.' I said, 'No, I can't name anymore. Just tell me, who is it?' And she said, 'GE.' I said, 'It can't be. They don't know anything about software.'"

Ruh found it hard to believe that GE would be willing to invest the kind of money it would take to build a successful software business. Silicon Valley is full of little startups, but creating software at an industrial scale would require billions of dollars. He also couldn't see GE, with more than 300,000 employees, making the cultural changes needed to compete in the Valley.

Despite those qualms, he traveled to Fairfield in

January 2011 to meet with Immelt. Ruh says he was impressed by Immelt's vision and his willingness to admit that he didn't fully know what he was doing. "Basically, Jeff said, 'Look, we're on Step 1 of a 50-step process, and I just need you to help me figure out what to do because I can only see out one or two steps,'" Ruh says. He took the job, and several weeks later his new boss promised to invest \$1 billion in a software operation in San Ramon, Calif.

GE's ambitions were greeted with skepticism in the Valley. In 2012, when Immelt promoted the software venture in San Francisco during a company-sponsored event with Marc Andreessen, the star venture capitalist and a friend of Immelt's warned that it would be difficult for a hardware company like GE to assemble a team of data scientists that could perform the kind of tasks that GE had in mind.

"It's hard to be really good at that," Andreessen said.

"It's really complicated." (Bloomberg LP, which owns *Bloomberg Businessweek*, is an investor in Andreessen Horowitz.)

Jennifer Waldo, GE's head of human relations in the San Ramon office, says recruiters had a hard time just getting people to come in for an interview. Nine out of 10 software developers they contacted had no idea GE was in the business or that it even had operations in California. Nor were they necessarily interested in learning anything more: Almost all had jobs and couldn't see any upside to working for an East Coast microwave oven manufacturer. In 2013, Waldo appealed to Immelt for help when he visited San Ramon. "I walked him through all those issues," she says. "I needed to compensate differently. I needed to in-source my recruiting team. We were competing in a marketplace where we're not even a recognized player." A former GE recruiter says the company offered stock options to job candidates, but not actual stock, the norm in Silicon Valley. There were also no nap rooms, no on-site child care, no dogs wandering around the office.

Waldo and her team found they could make headway by telling prospects that they would have a chance to develop trains and power equipment rather than some inconsequential social-networking app. "I had a candidate in the early days," she recalls. "She came in and said, 'I'm sitting there trying to figure out how to put a Pinterest button on something, and I get this phone call from GE, and you're talking about making aircraft engines fly more efficiently.'" (A GE spokeswoman says the company now includes stock in its compensation for software developers, too.)

GE also targeted startup veterans who'd spent years putting in hours for low pay hoping to be the next Mark Zuckerberg. "They went around to guys who were in their second and third startup and had been eating ramen noodles for eight years," says Nick Heymann, an analyst at William Blair. "They said, 'Look, how would you just like to have a normal lifestyle, live an hour outside the Bay Area, make a quarter of a million bucks

a year, and give your kids a really good education?'" At the end of 2013, GE had 750 people working in San Ramon.

By then, GE had developed an early version of Predix, an operating system like Windows or Android but for the Industrial Internet. The company developed applications for Predix enabling it to ingest and analyze vast amounts of data from sensor-equipped machines much like Amazon.com, Facebook, and Google do with information generated by their human customers. Immelt wanted to speed Predix's development and use it on GE's own equipment. That meant the entire company had to embrace the new operating system, even the power division, which usually took years to design turbines. There didn't seem to be much need to rush out new models; GE's power customers typically buy steam- or gas-powered turbines and use them for three decades.

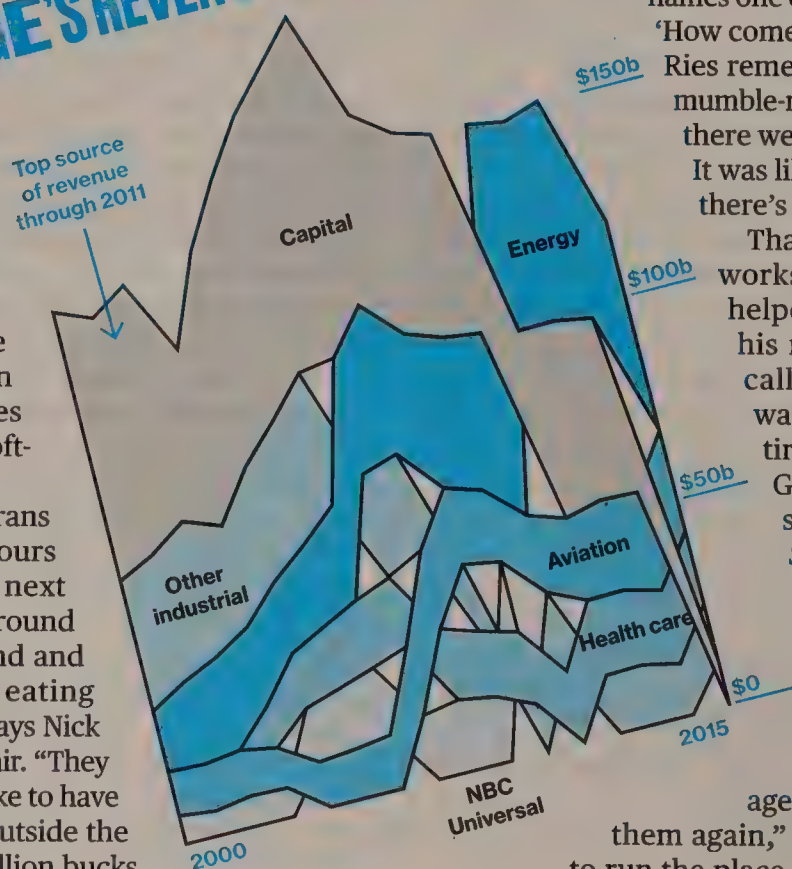
The more Immelt watched what was happening in Silicon Valley, the more he became convinced GE needed a cultural revolution. He sought assistance from Eric Ries, a tech entrepreneur and author of *The Lean Startup*, a book that espouses the importance of releasing early versions of products, getting customer feedback, then "pivoting" or changing them if necessary to improve them. In 2012, GE asked Ries to speak to Immelt and some of his top executives at the Ossining training center.

Ries was so nervous that he wore a suit. When he arrived at the training center, he says he felt like he was entering an alternative universe. The day before, he'd been in Washington visiting members of the Obama administration. Yet when he mentioned the White House with the GE people, they thought he was talking about the building on campus where the bar used to be. "I'm a startup guy from San Francisco," Ries says. "I was just like, 'What on earth is happening here?'" Ries was expecting Immelt to be a brusque, Jack Welch-like character. Then the CEO showed up in jeans and kidded him about being overdressed. "I thought you were from Silicon Valley," Immelt told him. "What are you doing in a suit?" Ries was charmed.

After Ries gave his presentation to the group, he opened the floor to questions. There was an awkward silence. "Jeff turns around, and he names one of his vice presidents, and he says, 'How come you're not already doing this?'" Ries remembers. "The guy was like, 'Um, mumble-mumble-mumble.' All of a sudden, there were a lot of questions in the room. It was like, 'Message received. Jeff thinks there's something here.'"

That afternoon, Ries started giving workshops for executives. He later helped GE tailor its own version of his methods, which the company calls FastWorks. He says Immelt wanted change, telling him: "I'm tired of hearing five-year plans." GE has since handed out thousands of copies of *The Lean Startup* and has trained tens of thousands of employees in the process. Everyone in upper management seems to use Silicon Valley-compliant vocabulary, particularly the word "pivot." "We encourage people to try things, pivot, try them again," Immelt says. "It's a better way to run the place than centralized command and

GE'S REVENUE BY SEGMENT



The biggest cowards are managers who don't let people know where they stand

The Industrial Internet “is actually the bulk of what’s happening on the Internet,” says a GE software executive. “Other than porn, I guess”

control, process-laden.” It’s a sign of his personal charisma that, unlike many of his employees, the boss can speak corporate jargon and make it sound profound.

Immelt also thought it was time to revamp GE’s annual review process to make the company more palatable to younger, software-literate workers. Under Welch, GE was famous for annual reviews that ranked all its employees numerically according to their performance. Then the bottom 10 percent were fired. “The biggest cowards are managers who don’t let people know where they stand,” Welch told *Bloomberg Businessweek* in 2012.

“It just didn’t make sense anymore,” says Susan Peters, GE’s senior vice president for human resources, of the annual review process. The company decided to scrap them altogether, replacing them with a gentler system where employees are “coached” by their more experienced peers.

Unlike some of Immelt’s earlier management initiatives—the idea jams and the imagination breakthroughs—the new ones seemed to have the intended effects. FastWorks, according to GE, enabled the development of a new gas turbine in a year and a half, rather than the usual five. “This is a billion-dollar product line,” says Steve Holze, chief of GE’s power division. “It’s going to expand to be one of our single biggest launches in our history.”

In April 2015, Immelt announced his plan to sell \$200 billion of its GE Capital assets within two years, faster than Wall Street had expected. Not surprisingly, he called it a “pivotal day.” Previously skeptical analysts praised Immelt during a conference call when he explained the plan. Even Barclays Capital’s Scott Davis, who had speculated only a month earlier that Immelt would soon be out of a job, was contrite. “Congrats,” Davis said. “I know we have all given you a lot of crap over the years, but this is pretty good stuff for redemption. That’s my best apology.” He added, “You can keep your job a little longer, I guess.”

Along with unloading most of its risky financial business, GE struck a deal to sell off its appliance division to Haier, the Chinese conglomerate, and increased its share of the global power industry with its 2015 purchase of Alstom, a French energy company, for \$10 billion. As a result, 90 percent of GE’s profits will come from industrial operations by 2018. (During its glory years from the late ’90s into the mid-2000s, GE Capital contributed as much as 40 percent.) Immelt says this is the GE he’s been trying to create since the financial crisis, although he acknowledges that it might have been difficult for outsiders to discern.

In January, GE announced the move to Boston, where the deer are few and the software developers plentiful. “Sitting in a rural setting, you can never be scared enough of what’s next,” Immelt says. “You just can’t be. You can’t be paranoid enough. And I felt like it would be a good thing for the business just to be in the flow of ideas.” It could also help GE attract more young employees with technology backgrounds, which remains a struggle because most people still don’t associate GE with software. GE has acknowledged this by running TV ads featuring a fictitious coder named Owen who gets blank stares from his

friends when he tells them he’s been hired by GE.

“Guys, I’ll be writing a new language for machines so planes, trains, and even hospitals can work better,” Owen says.

“So you’re going to work on a train?” a friend asks.

“No, on trains,” Owen corrects him. “On trains.”

“So you’re not going to develop stuff anymore?”

It’s rare for GE to laugh at itself like this, but the commercials have helped recruiting. “The Owen ads have increased the number of résumés we get by eight times,” says Ruh, now GE’s chief digital officer.

Head count at the San Ramon office is 1,300, including some refugees from Google and Facebook. It already has aviation customers using Predix applications to monitor the wear and tear on their jet engines and calibrate their maintenance schedules based on that data rather than an average for the entire fleet. It’s created smart wind turbines that tell each other how to shift their blades to catch more wind, which GE says can increase their power output by as much as 20 percent.

But Immelt needs to sell vast amounts of applications and Predix-based analytics to reach his goal of making GE a top 10 software company in 2020. That’s not a random deadline. Traditionally, GE chief executives have served 20 years, so his time will be just about up by then. He says the company already has a succession plan in place. If he can complete his digital reinvention of the company, he could depart in glory, the way Welch did.

GE says it’s beginning to sell Predix-based services to customers who design their own industrial equipment. Pitney Bowes is using Predix on its mailing-label machines and letter-sorting devices in corporate mailrooms; Toshiba is using it on elevators. “The Industrial Internet is going to be the dark matter of the Internet,” promises Harel Kodesh, chief technology officer for GE Digital, which is what the company now calls its software division. “It’s something you don’t see, but it is actually the bulk of what’s happening on the Internet. Other than porn, I guess.”

That may be, but GE faces competition from all sides. Amazon and Google are getting into the Internet of Things along with IBM and Microsoft. There are dozens of small startups with similar ambitions that don’t need Eric Ries to tell them what to do. Then there’s perhaps an even bigger unknown: Will other large industrial companies turn to GE to manage their information? “If you’re a manufacturer of some size and sophistication, are you going to say ‘Hello, GE. You can own the data on my business?’” asks Brian Langenberg, an independent analyst and founder of Langenberg & Co. in Chicago. “Or are you going to say, ‘I think I’m going to do it on my own?’ I’m skeptical.”

Not long ago, Immelt gave a speech in Dubai about the Industrial Internet. He wasn’t talking to tech people “with spiked hair,” as he puts it. He was addressing attendees who worked at oil companies and airlines—in other words, his kind of people. Immelt could see them nodding their heads approvingly as he talked. “It’s moments like that when you think, ‘This might work,’” he says later. “‘This really might work.’” **B**



Alto

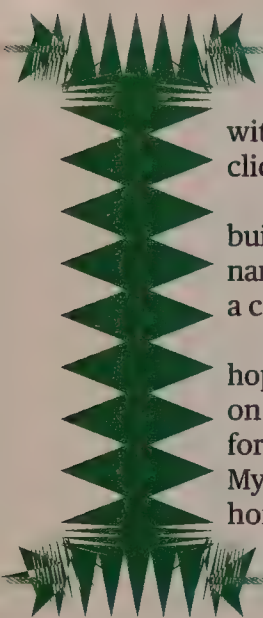


A financier
named
Benjamin
Wey has
spent two
years telling
the world

I'm a bigot,
a liar,
a thief, and
worse.

Photograph
by
Christaan Felber

By
Dune
Lawrence



saw the photo first, me in a bloody wash of red with “RACIST” pulsing over my face. A couple of clicks brought me to this:

“In the darkest shadow of Bloomberg’s glossy office building in Manhattan, you may find a woman by the name of Dune Lawrence—a ‘journalist’ who has built a career on writing salacious articles about China.”

That was my introduction to TheBlot, a website I hope you’ve never heard of. The article went on and on: I’d been kicked out of China for poor job performance and eked out a living on minimum wage. My appearance was ravaged by “years of consuming hormone-packed fried chicken and stressing over money.” Now, I’d found a way to save my sinking career by writing negative articles about China and taking kickbacks from short sellers. In a cinematic scene set at Kentucky Fried Chicken,

this Internet version of me laid out a strategy: “‘Bashing the Chinese could be a profitable niche for me,’ Lawrence said to a source while biting off a juicy chicken leg quarter at KFC. ‘The Chinese don’t vote, the Chinese don’t sue people, they just sit there taking the s---. How much better can it get? I am making a living out of it!’”

It was difficult for me to keep reading. In addition to all the lies, the story was laced with creepy sexual imagery: I’d had my “panties ripped off” and was like “a dog wagging her tail trying to attract a mating partner.” I felt overwhelmed; it was as if something heavy were pressing into my forehead. I wanted to fight back, and I also wanted to hide. I haven’t been able to do either.

The story, published on Jan. 8, 2014, had the byline “John Sterling.” The site’s other articles were an odd mix of celebrity gossip, entertainment news, and stabs at reporting on serious topics such as drug marketing. It wasn’t exactly high journalism, but it looked professional, not like some amateur blog. Google seemed to think so as well, because the story instantly went to the top of the results when I searched my name.

In September 2015 the FBI arrested the man behind TheBlot, one Benjamin Wey. Not for smearing me or the other people he imagined were his enemies. He’s primarily a financier, and he was charged with securities fraud and other financial crimes involving Chinese companies he helped to list on U.S. stock markets. The U.S. Department of Justice alleges Wey pocketed tens of millions of dollars in illicit profits that he funneled through associates overseas and back into accounts in the U.S. Wey denies the charges. A trial has been set for March 2017.

Meanwhile, TheBlot’s lies about me still pop up online. The same is true for a young woman who won an \$18 million judgment against Wey and his companies for sexual harassment and defamation, a journalist who wrote about her, a retired Nasdaq official, and a Georgetown University law professor. As Wey, 44, awaits trial, he regularly posts Blot articles calling all of us, and others, frauds, racists, and extortionists. He’s found a way to exact revenge with few consequences, and he’s milking it.

I met Wey in September 2010, when he sailed into the Bloomberg offices for an interview. He wore a suit, and his black hair was short and slick. He maintained a studied smugness, as if his publicist hadn’t e-mailed me cold to pitch the visit. I was a reporter who’d recently lived in China; Wey wanted some positive press for his business helping companies there raise money here.

Everything about him seemed rehearsed, from his

posture—chin down, fingers tented—to the way he used my name in almost every sentence. China’s economy was growing at roughly 10 percent a year, and Wey portrayed this as a sort of personal validation. “The philosophy is very simple,” he said. “If you believe China is going to continue to grow as it has, who’s going to bridge the gap between the two countries?” The answer, obviously, was Benjamin Wey.

Still, the life story Wey sketched for me was fascinating. He said he’d arrived in the U.S. from China in 1992 with \$62 in his pocket, then bootstrapped his way to Wall Street riches. A few years after our meeting, Wey would tell a longer version of the story in a document he claimed was a business school case study. His father died when he was 10, the story went, leaving his mother to raise him alone on \$120 a month in the northern Chinese city of Tianjin. Wey considered English the key to his future. He rose at 5 every morning to study, then biked 90 minutes to school, all the while reciting English phrases. One day it paid off: He struck up a conversation with a foreign couple on a bus. They hailed from Texas—a word that had an almost mystical ring to him. This chance meeting led him to college at Oklahoma Baptist University.

Success followed success. First, he founded and ran a campus catering company with a gross profit margin of some 95 percent. Next, while still at school, he brokered shipments of silk boxers, Brazilian sugar, and Russian fertilizer. After graduating, he got himself hired as a China adviser at Ashton Technology Group. It’s hard to know what to believe in Wey’s “case study,” but he did work at Ashton.

In the late 1990s he opened a consulting business with partners in Beijing, and in 2003 he founded New York Global Group. That’s the business Wey was promoting when I met him. NYGG advised mostly small and midsize private Chinese companies looking to list in the U.S., Wey told me. He emphasized that he turned away 99 percent of potential clients. Staff accountants, he said, performed as much as 11 months of due diligence, and then, for companies deemed worthy, NYGG engineered mergers with “shells”—companies that are all but defunct but still publicly listed. Such a transaction, called a reverse merger, transformed the Chinese entity into a U.S. public company overnight. Hundreds of Chinese companies had taken this route—and so, Wey pointed out, had Berkshire Hathaway and Texas Instruments.

Wey was saying one thing about Chinese reverse-merger companies, but the market was saying another. Short sellers were raising doubts about the accounting at many of these companies, and shares in some were falling. Wey was an assertive defender of the companies and accused the shorts of illegal market manipulation. I’d read up on Wey and knew he’d had his own regulatory issues: The state securities regulator in Oklahoma had accused him of failing to tell clients about his consulting relationships with companies whose shares he was touting. Wey was censured, and he agreed to a ban from the securities industry in the state, without admitting or denying the allegations.

I met with Wey again in November 2010, and the next January I wrote a story for *Bloomberg Businessweek* about short sellers and Chinese reverse mergers. It mentioned Wey and NYGG. In January 2012 the FBI searched NYGG’s office. Wey wouldn’t comment at the time, and the FBI didn’t give details.

After that, I heard only occasional news of Wey. A friend who’d read my stories on reverse mergers mentioned meeting him. In September 2013 the friend showed me a group e-mail Wey had sent saying he was an alumnus of Columbia Business School and touting the case study about himself. Columbia had published it, Wey wrote, and was planning to use it “in the

training of global leaders for years to come.” The attached document, titled “Benjamin Wey: Global Entrepreneur,” appeared to be on letterhead from Columbia’s CaseWorks series and listed a Columbia Business School professor and Wey himself as the co-authors. This was the story that included such details as the 90-minute bike ride to school and the nice couple from Texas.

The study isn’t a Columbia publication, according to Christopher Cashman, a spokesman for the business school. “The document you have is not a case study and was not published by Columbia Business School,” Cashman wrote in an e-mail. “In fact, no research or case study about Mr. Wey has ever been published by Columbia Business School.” The professor credited as Wey’s co-author declined to comment.

The document opens with Wey waving goodbye to his Columbia classmates on their last day together. They’re headed toward the subway, while Wey hops in his Maserati to get back to Wall Street. The rest of the narrative mostly sticks to Wey’s personal triumphs; it does touch on the Oklahoma trouble, describing it as politically motivated and saying Wey accepted the censure because he was no longer doing business in the state. Still, the story notes, news of the censure gave his enemies fodder. The lesson, Wey quotes Wey as saying, is that “perception matters more than facts or reality.”

By the time Wey distributed his case study, I was working on a story about a former client of his: AgFeed Industries, a Chinese animal-feed company embroiled in bankruptcy, a shareholder lawsuit, and a U.S. Securities and Exchange Commission investigation. Wey didn’t respond to my calls or e-mails. I reconstructed some of his involvement from Internet searches and turned up a press release from NYGG saying it had helped AgFeed raise \$86 million in the U.S. My story came out in December. Less than three months later, the SEC sued AgFeed and its Chinese executives for allegedly fabricating revenue from 2008 to 2011. The company settled without admitting liability and agreed to return \$18 million in illicit profits.

Wey e-mailed me on New Year’s Day 2014. He said he was seeking comment for a series of investigative articles about short sellers and fraud, and he had a list of questions for me. Here’s a sample. (All correspondence from Wey in this story is presented as he sent it, uncorrected.)

“If you have no business background and neither have you obtained any education in the field of accounting of business, how could you have derived conclusions on your own involving complex global business matters mentioned in your various articles?”

“We were told you were ‘emotionally scarred’ while living in China and you are racially biased against the Chinese people. Is it true?”

Wey outside the Manhattan courthouse, where he was found liable for sexual harassment and defamation. He hasn’t paid the \$18 million judgment

“Sources told us that you have an active business activities outside your Bloomberg employment. What are those business activities? How are you able to support your lifestyle? What compensation have you received from stock short sellers, hedge funds and other tabloid writers?”

He ended with: “This is the time for you to come out clean, Dune.”

I didn’t respond. He followed up two days later with additional

prompts, including “Sources told us you have gained a lot of weight due to stress.”

Wey had already started tweeting that I was implicated in “massive frauds.” When Bloomberg’s lawyers sent him a letter telling him to take down the tweets and stop defaming me, he fired off another long e-mail. “You are a tabloid writer, a sensational woman, a total loser with absolutely no sense of morality,” read the message, which nonetheless went on to say that “this is just the beginning of endless efforts to express our opinions forever, and continues the debates of our differences in civility.”

I knew something was coming, so I kept Googling my name and Wey’s name to see what it would be. That’s how I discovered my star turn on TheBlot.

I was rattled for days. I couldn’t focus on a story I was reporting about—as it happens—online privacy and anonymous browsing. Still, some things struck me as absurdly funny. Wey tried to drum up traffic to the story with a tweet claiming I was implicated in a “new Bernie Madoff fraud.” His e-mails, which kept coming, referred to “twits” instead of tweets and to Bloomberg’s outside law firm, Willkie Farr, as Wilkie Fart.

Wey’s name wasn’t on the story, but he wasn’t trying too hard to cover his tracks. The website’s terms of use identified theblot.com as part of FNL Media, which a copyright form placed at the same office address and floor as NYGG.

As I looked into how to get Wey’s vile material off the Internet, I saw that FNL’s business registration listed Holland & Knight, a respectable law firm, and a firm partner, Neal Beaton. That gave me some hope—maybe someone there would be willing to talk sense into Wey. I reached out through Bloomberg’s lawyers. The message came back—sorry, can’t help. (Holland & Knight says, through a spokesperson, “Our involvement with FNL Media was only in relation to the formation of the company in 2013.”)

I had no better luck with the companies Wey used to spread Blot posts. The site had a Facebook page, and Bloomberg’s legal team tried to get Facebook to remove references to me. No response. (The “RACIST” photo was in TheBlot’s photo stream when I checked as I was writing this story. I reported it and got an automated response saying Facebook would remove anything “that doesn’t follow the Facebook Statement of Rights and Responsibilities.” It’s still there.) When I complained to Twitter that Wey’s account was abusive, I got a response from Twitter Trust & Safety, telling me Wey wasn’t violating Twitter’s rules and to block his tweets so I couldn’t see them. I sent in more examples of Wey’s tweets, and Twitter suspended his account. He was back in less than three weeks. Someone opened a Twitter account impersonating me. The only follower was Benjamin Wey. Twitter did block that one.

My husband was enraged and impatient: Couldn’t we

Whenever a new image of me came online, a Blot article followed, with insults stamped over the image: FRAUD, DUMB, RACIST, INCOMPETENT



do something? How could this guy be allowed to get away with this? My mother worried this was all just a prelude to something worse—violence, physical harassment. I soothed them the best I could, and I kept looking for help.

Friends and colleagues told me appealing to Google was pretty much hopeless, and I found that to be true. Google didn't seem to offer any way to report defamatory content, although there was a "report images" option that I've been using to no avail for two years. Later, Google forwarded me its official policy. In the U.S., the company removes search results from its index only in specific situations involving images of child abuse, copyright infringement, or exposure of sensitive information such as Social Security numbers. Google will also respond to a court order identifying pages or content as defamatory.

I didn't sue for defamation; I talked to people about it, and all of them told me the same thing: It would be long, invasive, and horrible, and Wey would likely use the opportunity to further attack my privacy and reputation.

Wey kept at his trolling, with at least four more stories devoted to me, plus references in posts about his other targets. Whenever a new image of me came online, a Blot article followed, with the same insults stamped over the image: FRAUD, DUMB, RACIST, INCOMPETENT.

There were real consequences. My husband and I were turned down for homeowners insurance; the underwriter told my husband I was "high-profile." I traded cards with

another journalist at an event, and the next day he e-mailed to ask what the heck I'd done to make anyone so angry at me. I felt as if I had a dirty little secret. I'd forget, and then moments like that would upset me again. Not many people bothered to ask for my side of the story. Maybe that was because not a lot of people saw the Blot stories—the entire site got only 50,000 views a month.

But I imagined people I contacted for work, especially native Chinese, coming upon the Blot posts. How many of them would return my calls or e-mails?

I wasn't the first person accused of racism on TheBlot. Before me, there was Michael Emen, a Nasdaq official. In 2011, Nasdaq delisted a Wey client called CleanTech Innovations. (The decision was overturned by the SEC in July 2013 after the company appealed.) A piece labeled "opinion" appeared on TheBlot focusing on Emen's role, alleging abuse of his powers, discrimination, and racial profiling. "Michael Emen Reveals Racism at Nasdaq" is still at the top of a Google search on his name.

Similar "investigations," as they were tagged, began to appear regularly on TheBlot. The attacks reflected Wey's obsession with what he saw as the unfair treatment of Chinese companies by the U.S. media and regulators. TheBlot went after Roddy Boyd, a freelance

reporter who'd doggedly analyzed accounting irregularities at U.S.-listed Chinese companies; Jon Carnes, a short seller; Francine McKenna, who wrote about AgFeed on her accounting-focused blog; and a pair of *Barron's* reporters who'd covered reverse-merger companies and Wey's business. The accompanying graphics grew coarser and coarser, including photos of toilet bowls full of feces.

TheBlot found a new target in July 2014, a Swedish woman named Hanna Bouveng. She met Wey at a party in the Hamptons in 2013. Not long after, he offered her a job at NYGG, a visa, and a chance to stay in New York. She accepted. A lawsuit she later filed alleged that Wey, who was married with children and almost 20 years her senior, pursued her relentlessly, buying her tight clothes that he asked her to wear at the office and forcing her to share a room with him on business trips. Eventually, the suit said, she slept with him, and when she declined to keep doing so, he fired her. Bouveng sought \$850 million in damages.

TheBlot spewed out inflammatory articles and lurid illustrations about Wey's latest enemies: Bouveng, her lawyers, her friends, even a New York *Daily News* reporter who wrote a brief item about the lawsuit. Just a sample of the headlines: "Op-Ed: Hanna Bouveng, Cocaine User Caught with Cocaine and Gun Criminal, Swedish Shame"

"Bank Fraud Dooms Morelli Alters Ratner Law Firm, Bankruptcy, Lawsuit Charges, FBI Investigates"

"Barbara Ross, Racist NY Daily News Writer Fabricated Judge's Order, Prejudiced Journalist Benjamin Wey"

Bouveng's lawyers tried to persuade the judge in the case to stop Wey from continuing to publish defamatory articles, asserting that they amounted to retaliation and witness intimidation. Wey's lawyers argued that this would infringe on Wey's right to free speech. The judge didn't rule on this aspect of the case until after the trial was over, when he said the money judgment made it a moot point. Many of the stories remain online, updated with new material.

The trial became tabloid fodder as Bouveng testified about her sexual encounters with Wey. (From her testimony: Q. Did you kiss him? A. No. Q. Did you hug him? A. No. Q. Did you reciprocate in any way? A. No. Q. How long did it last? A. A few minutes.) For Blot watchers like me, it also revealed Wey's methods. He really had established a website, hired writers, and published articles just to have a platform for his attacks. The site's former editor-in-chief testified that all Wey really cared about were the pieces on his enemies and that he tacked on comments under fake names to push the articles further up in search results.

A jury awarded Bouveng \$18 million last June. She has yet to receive any money, according to one of her lawyers, David Ratner. Wey's tweets after the verdict in Bouveng's lawsuit spun defeat into victory: "#GRATIFIED #financier @WeyBenjamin DEFEATS #extortion #hannabouveng FALSE sexual assault, retaliation claims, VICTORY."

Ratner sent me a comment from Bouveng, saying she's "pleased that the U.S. government is pursuing a criminal case against Wey. He will ultimately get what he deserves."

On the day of his arrest in September 2015, Wey appeared in federal court in Manhattan to hear the charges: securities and wire fraud, conspiracy to commit securities fraud and wire fraud, failure to disclose ownership in excess of 5 percent of companies' stock, and money laundering. Wey manipulated Chinese companies and investors, according to

"Howdy!
Ni Hao!
Hello!... You
know me
well so let's
get to the
point.
...Investigative
reporters
are evaluating
publishing
new stories
about you"



Bouvang
is "pleased
that the U.S.
government
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Wey," says her
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the Justice Department, taking hidden stakes through family members and front companies, then manipulating trading in the shares to benefit himself and his family. The indictment outlines how he allegedly took a cut of almost every transaction as he shepherded companies such as Deer Consumer Products and CleanTech to U.S. listings. He owned hidden stakes in the shell companies used for reverse mergers, which then became shares of the new entities. He hid these stakes in offshore entities, through which he parceled out stakes to friends and family to boost the number of shareholders to the threshold required for a Nasdaq listing. He also used these offshore entities to conduct fraudulent trading, at times artificially inflating share prices and then selling to generate millions in profits. He caused stock and profits to be transferred overseas through accounts in Switzerland and Hong Kong. (Wey's Geneva-based banker, Seref Dogan Erbek, was also charged. He is at large.) The money returned to the U.S. and eventually to Wey, often, the indictment says, as nontaxable gifts to Wey's wife, Michaela.

On Sept. 15, Wey pleaded not guilty to all charges. He's also a defendant, along with his wife and several other people associated with NYGG, in a civil suit filed by the SEC at the same time as the criminal complaint. Wey and his wife haven't filed a response in the SEC case and are seeking to have it stayed until the criminal case against Wey is resolved.

Wey is also battling lawsuits stemming from TheBlot. A Georgetown law professor named Chris Brummer sued him in April 2015. Brummer had the poor luck to be an arbitrator in a Financial Industry Regulatory Authority (Finra) disciplinary action against two brokers who sold shares of Deer Consumer Products without disclosing to customers that they were paid consultants for the company. Deer was a client of Wey's. Finra barred the two brokers from working in the securities industry, and Brummer was on a panel that upheld the decision in 2014. Stories on TheBlot appeared promptly, pillorying Brummer as a fraud, calling him an Uncle Tom (Brummer is black), and accusing him of being involved in pump-and-dump stock schemes.

Wey responded to Brummer's lawsuit with a motion to dismiss. It contends that Wey didn't write the posts and that the suit is a "transparent attempt" to chill free speech, because no reasonable reader would interpret the articles as fact, rather than opinion. The motion notes that "it is undisputed that the Posts are available only on a sensationalist internet blog." Preposterous though this might sound, especially given Wey's regular declarations that he's an investigative journalist, it appears to be designed to cloak Wey and TheBlot in the mantle of the First Amendment and protected free speech.

Brummer wouldn't talk to me, but one of his lawyers, Whitney Gibson, agreed to discuss defamation in the online era in general terms. Internet companies, he told me, are protected under a clause in the Communications Decency Act that says no provider or user of an "interactive computer service," such as a website, a hosting company, or a search engine provider, can be held liable for third-party content. That allows companies to ignore the headache of arbitrating right from wrong and fact from fiction online, for the most part. It also leaves Brummer, and all of us, vulnerable to the likes of Wey, who disguised many of his attacks as stories submitted by anonymous readers. Decades into the Internet Age, there's no surefire method to get defamatory material taken down if the person responsible for it is ready to put up a fight.

Earlier this month, Brummer's lawsuit cleared a major

hurdle: The judge ruled against Wey's motion to dismiss and specified that Wey hadn't shown the Blot articles should be protected under the Communications Decency Act. It's a victory, though Brummer still has to prevail in the overall case—and in the meantime, the Blot articles stay up.

Almost everyone I contacted for this story, including Emen, Brummer, and others who'd been attacked on TheBlot, chose not to comment, and I understand that decision. What's the upside? I know what the downside is: more attacks. It took me a long time to decide to write about my own experience, because I just wanted to avoid any more interaction with Wey. But I did have to give him a chance to comment for this story, particularly on the origin of the Columbia "case study." I e-mailed the lawyers representing him in his various legal battles, and in less than three hours, I got a 1,600-word response from Wey. This is just a piece:

"Howdy! Ni Hao! Hello! I am Benjamin Wey—your old friend. You know me well so let's get to the point. I am an independent investigative reporter and I like TheBlot Magazine (www.theblot.com)—Voice for the Voiceless, millions of readers a year. Investigative reporters are evaluating publishing new stories about you, your peculiar money entanglements with illegal stock short sellers (Roddy Boyd, Jon Carnes etc) as their bribed mouthpiece, your alleged extra-marital affairs with a man calling himself 'niu bi'—'a cattle's d---'—in Chinese on your own Twitter page, as well as your racist attitude towards the Chinese people. Because you just reached out to me again after two years of peace, you just did yourself a favor by reviving our interest in you....

"You mentioned a non-published Columbia Business School research paper. I recall you and your sex partner Roddy Boyd collectively published a tabloid hit piece on this matter in 2013 in the NY Post. You said the Columbia paper was never published. Then how did you get a copy? How did you get hold of a draft Columbia University internal document? When and how did you hack into Columbia's computers? How did you steal Columbia's documents? Who else was involved in your theft? Come clean please so our readers can judge. How long have you been stealing documents from your employer? You know, theft is a pattern....

"We have 18 more questions for you to answer. Each answer can be a separate, featured article. Dune, to save you time, let's start with the above list. Okay? Our deadline for your answers is 5 pm, Feb 24, 2016. As it is said, 'a thief remains silent'. If you do not respond, we will report to our readers such....

"Donald Trump said the main stream media is full of dishonest people. I have to say I agree with him. You are one of those duckings feeling like some white swan. There is no swan lake in my life to dance around, okay? I know your tricks and how you 'media' people think. I am one of you, a fearless reporter and I have buckets and buckets of ink—more than you do."

I wrote this story because I have a platform to fight back. How can I, with the resources and reach of a global magazine, let him intimidate me? It's my job to write about Wey. Still, I'm not looking forward to what's coming next. **B**

THE WORLD'S TWO BIGGEST MINES
TO GET TO A GIANT

THEN THE MAR

THEY'RE ST

DEE

PHOTOGRAPHS BY

BY MATTHEW

G COMPANIES SPENT \$1 BILLION
EPOSIT OF COPPER.

ET CRASHED.

IL DIGGING

PER

YAN SCHUTMAAT

PHILIPS

The entrance to America's deepest mine shaft sits on a plateau high above the Arizona desert, about an hour east of Phoenix. Tucked against the base of a ridge of steep cliffs, it looks southeast over miles of ragged boulder fields. What looks like a large capital A rises above its entrance. It's the steel headframe used to hoist equipment in and out of the shaft, a concrete tube 30 feet wide that goes 6,943 feet straight down.

The No. 10 mine shaft, as it's called, is on the southern edge of an old underground mine. For 86 years, the Magma Superior mine pulled copper and silver out of the surrounding mountains before closing in 1996 when the minerals ran out. Over its lifetime, Magma grew to include nine separate shafts, some of them miles apart. The final shaft, No. 9, was finished in the 1970s. After Magma closed, No. 9 sat abandoned for nearly 20 years before becoming part of the new Resolution Copper mine. It's now the ventilation shaft for its younger, deeper cousin, No. 10, just a few hundred feet away.

Visited on a chilly day in December, the area around the top of the mine, the "collar" in mining terms, doesn't look inviting. Steam clouds pour from the mouth of No. 9. It's the hot air being drawn from the cave dug at the bottom of No. 10. That far down, rocks formed billions of years ago still carry heat from the molten core of the earth. Without the elaborate refrigeration system that pumps chilled air down No. 10, the bottom of the mine would be 180F, far too hot for a human to withstand. "You'd cook," says Randy Seppala, 60, project manager for shaft development. Miners have long called this heat the "hand of the devil," reaching up from the depths.

Seppala works for Resolution Copper Mining, a venture between the two largest mining companies in the world, Rio Tinto and BHP Billiton. Together they've spent more than \$1 billion, including \$350 million sinking the No. 10 mine shaft, in hopes of tapping nearly 2 billion metric tons of ore. Less than 2 percent of it is believed to be copper. It might not sound like much, but that's considered dense, making it the fourth-largest undeveloped copper deposit in the world.

Resolution Copper plans to dig four more shafts over the next 15 years. At peak production, this will be the biggest copper mine in the U.S., producing 100,000 tons of rock a day, and enough copper to meet a quarter of the country's demand. It could also end up being a financial problem for its owners. The price of copper, along with lots of other commodities, has crashed as China's economy has slowed. The Resolution mine is essentially an enormous bet that the third-most-used metal in the world is oversold and that prices will rebound by the time the mine opens in several years. "This is a pretty big gamble," says Dane Davis, a commodity analyst at Barclays. "We're in a new era for copper, and no one truly knows what demand is going to be like. So I would say this is quite risky."

Before going down the No. 10 shaft, visitors learn how to put on an emergency breathing kit consisting of a nose clip, breathing tube, and small oxygen bag you attach to your belt. As the safety video points out, a fire or explosion can occur at any time in an underground mine. Your ability to survive depends on being prepared.

There are lots of ways to die in a mine. Roughly in order of likelihood, the most common include getting struck by objects falling down the shaft, falling down the shaft yourself, and

being killed by an explosion. In the last case, it's probably not the fire that kills you, or even the force of the blast. It's the toxic gases that get released, particularly the high concentrations of carbon monoxide. According to Andy Bravence, Resolution's mine superintendent and Seppala's No. 2, the breathing kit can get used up in a few breaths if you're hyperventilating. Dangerous levels of carbon monoxide are in the range of 3,500 parts per million. "One breath of that, and pretty much she's gonna collect your insurance," Bravence says. "It sucks all the oxygen out of the blood and knocks you out. Your next breath you won't remember taking, and you're pretty much done after that. But you know: Don't worry."

Bravence, 56, is wider and taller than Seppala, who's lithe and lean. Both men have impressive mustaches and walk around most days in either jeans and steel-toed boots or navy blue canvas overalls called diggers, which have built-in boots. As we prep to go underground, they're both in their diggers, Seppala with a camouflage baseball cap pulled low over his eyes, Bravence in his mining helmet. Seppala spends most of his time these days above ground, but Bravence goes down almost daily to check on the work.

One descends No. 10 in a giant bucket or in a metal cage. Both travel at 500 feet per minute, or a little faster than 5 miles an hour. Yellow decals in the cage warn of hazards using pictures of stick people in various states of danger: One has an arm caught between gears; another is getting hit by falling rocks. The concrete shaft runs by, almost close enough to touch through a few half-dollar-size holes.

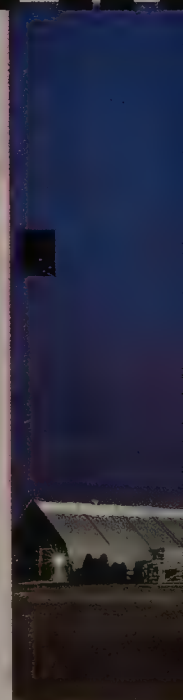
"What happens if we turn off our helmet lights?" I ask.

"You find the true definition of dark," Seppala says. We turn them off. Blackness, and the rumbling cage.

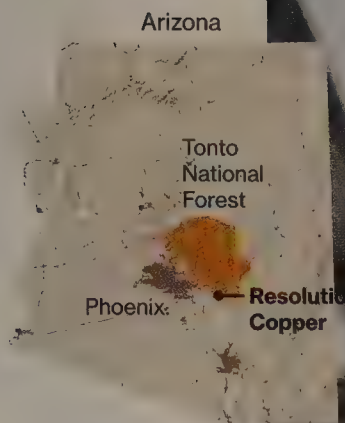
After eight minutes a low roar from below picks up. By now, about 4,600 feet from the surface, and 400 feet below sea level, the air pumped down by the refrigeration system has lost its chill. At this depth, Resolution has built a second cooling station, dug laterally off the mine shaft. Here, the air gets circulated through a second set of giant cooling coils, built into the rock and encased in metal. Two fans, 5 feet wide, blow the freshly chilled air back to the bottom of the mine. A giant duct carries it the remaining 2,300 feet down.

Back in the cage, it takes an additional seven minutes to get all the way to the bottom of the mine. Seppala steps out and immediately wipes fog off his custom-made safety glasses. Steaming hot water pours off the rocks; during construction, workers bored into an ancient lake trapped thousands of feet underground by impermeable rock, and it's leaking into the mine. It's like standing in a tropical rainstorm. A digital hydrometer on the wall registers 100 percent humidity. Overhead, cooled

THE BIGGEST COPPER MINE IN THE U.S.



WHEN DONE, SOLUTION WILL E

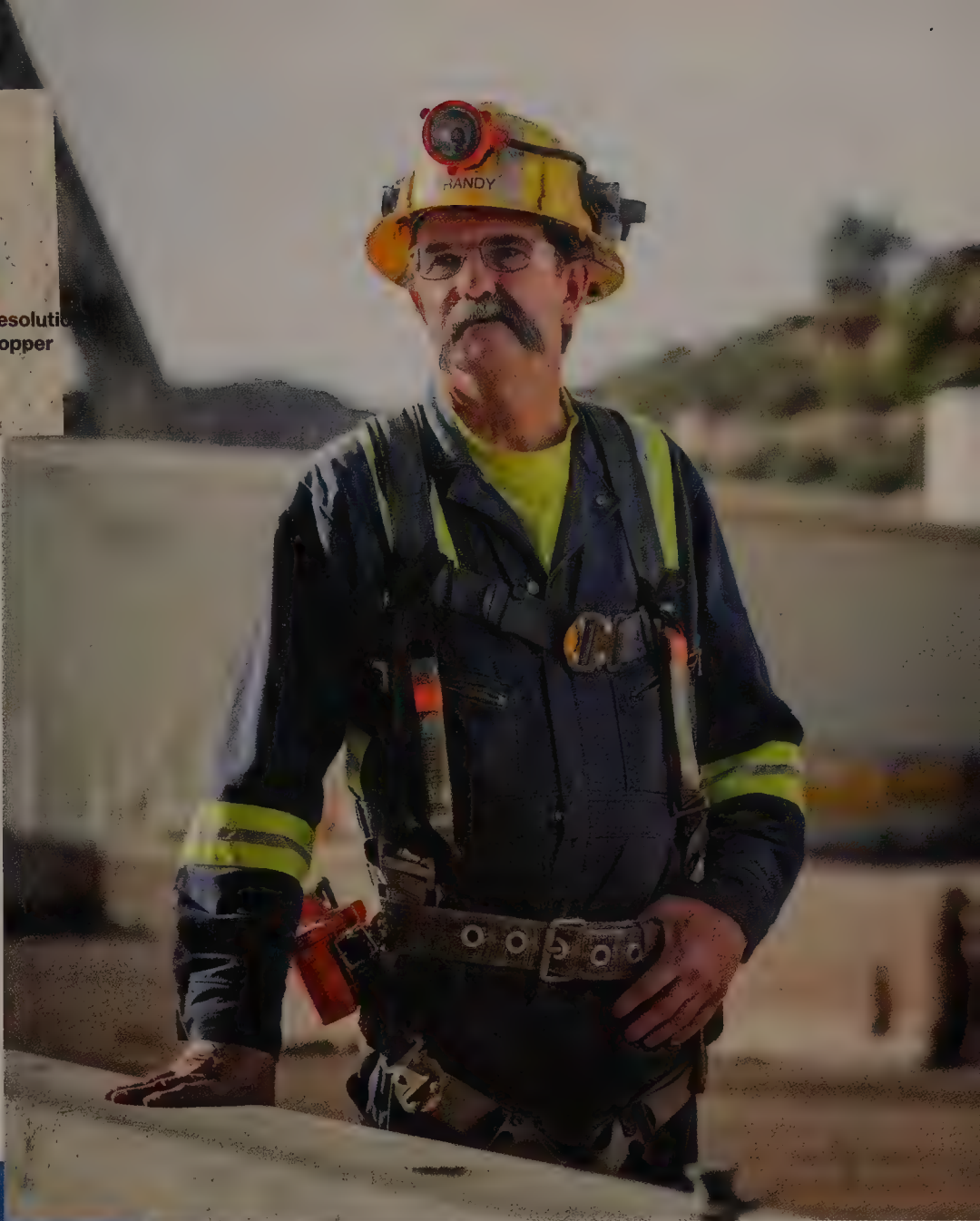


air gushes out of a metal duct, blowing the rain sideways and keeping the temperature in the mid-70s.

In a few years, this tunnel will have offices and high-speed Internet where engineers and geologists can work without having to go back up to the surface. Right now it's a hot, wet cave: Steam billows past floodlights hung from the ceiling; pipes and cables, some of them jiggling, run along wet, rocky walls; a front-end loader stays dry under a party tent bought at Walmart.

Seppala walks warily around in the rain, a spotlight on his yellow hard hat pointing the way. At the bottom of the mine, a 170-foot lateral tunnel is laid out like a cross. On the left is the pumping station. A 6-foot-tall submersible pump in 20 feet of water beneath the shaft

**SEPPALA OVERSAW
CONSTRUCTION OF THE
MINE SHAFT**



fills a dumpster-size tank. From the tank, two large pumps each shoot 700 gallons a minute up to the surface, where it's treated and used by local farmers. If the whole thing stopped working, the tunnel would flood in 15 hours. Two life preservers hang nearby, just in case.

Across from the pump station, a thick vein of cables delivers 4,100 volts of power into a metal shed. Perfectly dry, bright, and clean inside, it's filled with racks of humming electrical

gear, transformers, and switches. The shed runs everything from the lights to the pumps to the drills to the immaculate, industrial-use portable toilet. A two-man drill crew works at the head of the tunnel, boring test holes into the rock. They look like Spider-Men: Wire mesh covers the lenses of their safety glasses in a protective black screen. Seppala motions off to the side of the tunnel, his arm cocked at a 45-degree angle. "It's up that way," he says, meaning the copper deposit, still behind several hundred feet of rock. "That's the whole reason we're down here."

Southeastern Arizona has been mined for more than a century, but it wasn't until the 1990s that geologists found the massive deposit next to No. 10. For decades they speculated about something bigger lurking beneath the shallower veins of copper running under the desert. Whatever was down there was deep though, more than a mile down, and far outside the reach of cost-effective mining techniques. Then, in 1994, as the Magma mine was running out of copper, a team of geologists bored a test hole under the Tonto National Forest and hit pay dirt. Deposits this big are usually strip-mined, but this one is too deep, so Rio Tinto will mine it from the bottom up. As it's drilled and blasted from below, the ore will crumble and drop into a series of chutes and conveyors. This type of mining, called block caving, has been around since the 1950s, but it's never been done at anywhere close to this depth or on this large a deposit. ➔

Over time, as the deposit is mined, the land above it will start to sink. No one's sure how much. Models suggest that for every 100 feet of ore that's mined, the surface could subside 30 feet. Which would mean that by the time the mine is depleted, after about 50 years of production, there could be a crater in the ground 2 miles across, and 1,000 feet deep, right on the edge of one of the country's largest national forests.

The deposit sits directly beneath about 2,400 acres of what had been national forest land. Rio Tinto spent a decade trying to gain access to the land. It couldn't just buy it from the government; it had to swap for it. At the end of 2014, a group of lawmakers tacked a rider into a military spending bill that transferred the 2,400 acres above the copper deposit to the mining project. In return, the U.S. Forest Service got 5,300 acres of conservation land that Rio Tinto spent more than \$18 million buying up. The land was selected by the Forest Service and environmental groups to be comparable to the parcel traded to the mine. In January, in a bid to stop the mine from going forward, the National Park Service applied to add the land given to the mine to the National Register of Historic Places. On March 2, House Republicans began investigating the Park Service's move, requesting documents from the departments of Interior and Agriculture. Despite the wrangling, this month the federal government will begin the formal regulatory review of the Resolution mine, which could take two to three years.

So far, all the work on the mine has been exploratory. Rio Tinto doesn't expect to get the permits to begin removing copper until about 2020. By the time the first ounce of copper is produced, the company and partner BHP will have spent more than \$7 billion on the Resolution project—an amazing sum given the sorry state of the mining industry. After a decade of high prices led to big investments in mines all over the world, there's now a glut of metal on the market. Prices have crashed: Copper is 50 percent cheaper than it was in 2011, and mining companies have lost billions of dollars in value. Mines are shutting down. Layoffs are rippling through the industry, from the U.S. to Australia, as the giant companies try to slim down in the face of the steepest decline in metals prices in a generation.

Rio Tinto, based in London, has managed the downturn reasonably well, thanks largely to aggressive cost-cutting under Chief Executive Officer Sam Walsh. Since January 2013, he's sold off \$4.7 billion in assets, including some of its costliest mines, and reduced capital spending 50 percent. In December

he announced pay freezes for the entire company in 2016.

The U.S. has some of the largest-known resources of mineral deposits in the world, yet they've become harder and harder to extract. The permitting process alone can take a decade. The mining industry likes to point out that, since the 1990s, the U.S. has fallen from 20 percent of the world's mine-exploration spending to 8 percent. That's left the U.S. with an array of older mines that tend to have higher costs, since the deeper you have to dig, the more expensive it becomes. So mines go in waves, opening and closing, sometimes for years at a time, pulled by the volatility of commodity markets. Over the past three decades, there have been three big downturns—the early '80s, the mid-'90s, and this one.

Seppala has ridden each wave, and this is the second time he's worked at the Resolution site. He got his first job at the Magma Superior mine back in 1977, just as No. 9 was being completed. He was fresh off a full ride at the University of Arizona mining program. "They were giving out scholarships to anyone willing to go into mining," he says. After copper prices collapsed, Magma Superior shut down in 1982. Seppala eventually moved his family to Indonesia to work in a Freeport McMoRan mine. "That was a rough camp back then. That was out in the jungle." His wife came back to Arizona after a year. "She said I could do what I wanted."

He came home and eventually landed at a mine in San Manuel, about 40 miles north of Tucson. That mine used an underground block-caving technique, blasting and mining the ore in big panels at different angles, as Resolution will do. Seppala prefers this to open pits. "The challenges of the engineering are what make it fun," he says. "Open pits are just bigger and faster. I call it large-scale gardening."

Bravence worked as a drift miner at Magma Superior from 1991 to 1995. A drift is when you dig sideways, chasing the final remnants of a vein of copper that runs into the mountain. This is how people get crushed. Critical to a lateral hole are the timber braces that hold it up. Bravence was a timber repairman for several years. He's spent half his life crawling around underground. "I'm paying for it now with the absence of a lot of really good shoulder muscles," he says. "It's a young man's game."

Over his career, Bravence has had eight colleagues get killed underground. Seppala has worked with more than 20 who died on the job. They call that hitting the jackpot. "Lots of jackpots," Bravence says. "That's just when bad things happen. Top to bottom I've seen a lot of crazy stuff. It's always heavy and dark and wet underground, so nothing's easy."

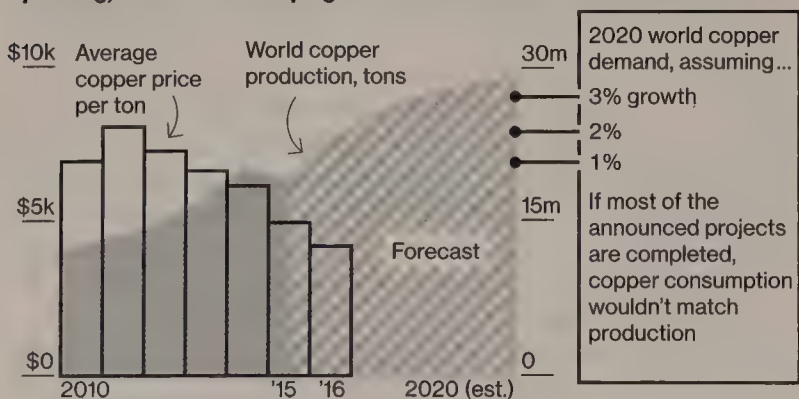
Sinking a mine shaft follows a strict sequence of events: drill, blast, muck, repeat. The machine that does it is a 50-ton, 60-foot-tall tubular cage called the Galloway. Nested inside



CORE SAMPLES OF ROCK GIVE GEOLOGISTS A SENSE OF WHAT LIES BELOW; THE MINE COULD REVITALIZE THE TOWN OF SUPERIOR

COPPER CRUNCH

Supply is forecast to exceed demand over the rest of the decade, as China slows infrastructure and construction spending, and other developing economies follow suit.



it are a pair of drills that bore a series of holes into the rock, each one 10 feet deep and 2 inches around. The holes are then packed with explosives, and the Galloway is raised a few hundred feet, to a safe distance. When the crew triggers the detonation, they feel the concussion reverberating up the shaft toward them before they hear it. The smoke clears after about 45 minutes. Then the Galloway is lowered back down, and a pair of mechanical arms with giant claws attached to the bottom “muck” up the rubble from the blast. A layer of sprayed-on concrete is applied around the edges of the shaft. More holes are drilled, dynamite is laid, and the Galloway rises again.

At No. 10 it took about three years to dig down to the first substation, 4,600 feet beneath the surface, at an average pace of about 10 feet a day of finished concrete tube. “We were high-



balling,” Bravence says. “Blasting three to four times a week and pouring concrete three times a week.” Then came the water. By January 2013, work had slowed almost to a standstill.

The crew spent six months trying to ward it off. They stuck grout and even burlap into crevices. Nothing worked. They eventually installed the pumps. “We never did contain the water. So we just pushed it out of our way and mined through it,” Bravence says. He’s confident No. 10 is the most difficult mine shaft ever dug in America. “We were doing things that hadn’t been done at that depth. The heat, the water, that’s what made this shaft different from any other,” he says. It’s also the dirtiest one he ever worked in. Bravence went home covered in red every night from all the hematite in the rock. “You’d take your shower, and you’d do the best you could getting clean, but after a couple days the wife would be screaming at you, because your sheets would be red. So we never had white sheets. We just got red ones. That’s just a miner mentality.”

Back at the surface, Seppala exhales as we climb out of the cage. “Even after all these years working underground, no matter how little time I spend down there, it always feels good when you hit the collar,” he says. “It’s hard to explain, just a feeling I get.”

“It’s when the beer tastes the best,” Bravence says.

The edge of the San Carlos Apache Indian Reservation is about 20 miles east of No. 10, and the tribe is an adamant opponent

of the mine. The Apaches claim the land beneath the Tonto National Forest is sacred to them and that the mine will tap and possibly contaminate their reservation’s water supplies. Andrew Taplin, Resolution Copper’s project director, has tried to assure the tribe that this won’t happen. “It’s absolutely physically impossible for us to impact their aquifers or surface water,” he says. “We are 20 miles apart and on different aquifers that are part of different basins.”

Resolution Copper employees have attempted to engage with the tribe and hold information sessions on the reservation, but without much luck. “For 10 years we have not had access to the reservation,” says Taplin. “We have not been permitted onto the reservation to provide our side of the story.” Last year, however, a handful of Resolution community-relations

employees, after months of negotiations, were allowed to hold an information session at a casino on the reservation. “It took us years to get that invitation,” says Victoria Peacey, who handles the permitting process and external affairs for Resolution Copper. “The casino went out on a limb by having us.” Along with discussing water issues, Peacey tried to focus on the economic benefits of the mine during her presentation at the reservation, which is home to 15,000 people and has an unemployment rate close to 70 percent.

In early December, Jean-Sébastien Jacques, chief executive of copper at Rio Tinto, visits the mine. His trip had been planned for months, but at the last minute, an Apache tribal leader agrees to visit the mine with Jacques. Before going underground, Jacques and Taplin take him aside and draw a sketch on a white board, demonstrating the underground geology in an attempt to convince him that the mine won’t interfere with the San Carlos water supply. Afterward, in a car ride to a nearby drill site, Jacques describes the meeting. “In the end, the people that will

grant us our license to operate are the local communities, and we have to be their full partner.”

The Rio Tinto executive has brokered deals like this before. In October 2014 he invited Mongolia’s prime minister-elect, Chimedijn Saikhanbileg, to dinner at his Holland Park house in London. Negotiations had been stalled over Rio Tinto’s attempts to expand a large gold and copper mine in the country. Finally, at dinner, Jacques’s 9-year-old daughter charmed the Mongolian leader by asking him to sign her geography homework. “My cheeky little monkey,” Jacques says with a smile, still amused.

Over the past few years, Resolution has drilled more than 100 holes to test the size and composition of the Arizona copper deposit. Each test hole, about 6 inches in diameter and thousands of feet deep, costs more than \$1 million. At a drill site down the hill from the mine entrance and on top of the ore body, Jacques is given a progress report. Walking over, he reflects on the complications of mining: “It’s actually quite simple, really. It’s a capital business. So we sink \$5 billion into the ground, and the sooner you get the cash out, the better it is.”

By the drill rig, a geologist produces some recent core samples that had been pulled from the hole. Pointing to some metallic-looking spots on the tubular rock, the geologist explains that recent samples had shown copper concentrations as high as 3.5 percent. Jacques smiles and puts his finger to his ear. “I can hear the money.” **B**

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Brotailers are
redefining how guys
buy clothes



n a cloudless, 70F February morning in San Francisco, wild parrots fly from branch to branch on Telegraph Hill, and on the exposed, winding Filbert Street steps below, an adult man is dressed in a gorilla suit, throwing empty plastic water jugs at a half-dozen costumed grown-ups.

For safety, they've put on red helmets, an "M" above the brim. Some have fake mustaches; others have real ones. They're all wearing shorts.

Inside the gorilla suit is Grant Marek, editorial director of Chubbies, retailer of brightly colored shorts with thigh-baring hemlines—motto: "Sky's out. Thighs out"—and producer of extremely popular online re-creations of retro video games. Today, Marek and his fellow Chubbies staffers, modern-day Marios, are shooting a real-life version of the Nintendo classic Donkey Kong. The video's shaky camerawork—a generous term, given the use of GoPros and selfie sticks—and near-absence of product close-ups would get an F in Commercial Directing 101, but the Chubtendo squad doesn't care.

In January company members reenacted the racing game Mario Kart, filming themselves riding small plastic scooters down the city's twisty Lombard Street. More than 24 million people have watched it, and typical Facebook comments include "Holy s---, this is hilarious" and "This would be so much fun drunk!" Which is exactly the reaction Chubbies expects. "We started making things for our friends," says co-founder Kyle Hency, 31. "That's still the guiding light for what we do."

Chubbies—yes, the name refers to exactly what a 16-year-old boy thinks it does—is a leader in a new kind of menswear retail that appeals to a different breed of customer. He's not the rumpled office drone who wants nine suits for the price of one at Jos. A. Bank or the tidy, tailored aesthete who favors J.Crew. Rather, he's the id-driven, post-collegiate twentysomething bro, the dude who might call his friend Broseph Stalin and eat a bag of brotato chips. The recipe for this guy is pretty straightforward: Take two measures bottom-of-your-prep-school class, add one measure earnest goofball, stir, and garnish with a lacrosse stick. But the way to build a business around him isn't as clear. This is a group who hates shopping and would happily wear the same pair of sweatpants every day if society didn't frown upon it. So how do you get these guys to buy clothes? This is where Chubbies and its peers come in. Call them the brotailers.

Brotailers are companies such as Criquet (\$75 cotton golf shirts with names like You're My Boy Blue, a reference to the movie *Old School*), Birddogs (\$55 athletic shorts called the Thrusters that come with built-in underwear), and Untuckit (\$98 tailless shirts such as the Cote de Beaune that are meant to drape over the belt). They tend to make one product, which they sell

primarily online via websites that also feature articles about "How to Pump the Brakes on a Relationship" and "How to Pitch a Tent When You're Not Camping."

These companies aren't the first to use the Internet to sell clothing and accessories to men. In addition to major retailers, Jack Spade (urbane bags), Harry's (German-made razors), Jack Erwin (dress shoes), and Bonobos (chinos and jeans) have all gone after young urban professionals. But what sets apart brotailers in this ecosystem is that they're more a mirror than an ideal. You don't shop at Chubbies because you want to look like the guy in the photos; you shop there because you already do.

Many brotailers share an origin story: A group of friends

"We're in this really weird phase of masculinity, where all the rules are shifting.... I don't think anyone has told the guys what they're supposed to do now"



Chubbies founders (left to right) Montgomery, Castillo, Rutherford, and Hency

finish college and get jobs in résumé-building industries like finance and technology. All's well, but the jobs are boring, and they're working for the weekend. Eventually they hear the siren song of the startup and venture capital money. "We were graduating school in a time where the job market was a bit tumultuous," says Chubbies co-founder Tom Montgomery, 30, referring to the post-financial-crisis years of the late 2000s. Montgomery, Hency, and co-founders Rainer Castillo, 31, and Preston Rutherford, 30, were all newly minted Stanford graduates pursuing careers in banking and business development. Castillo is the only retailer of the bunch, having worked in corporate jobs at the Gap and Levi's. "On the weekends, when it was nice out, the uniform all of us naturally settled into was a pair of shorts that were handed down from our dads," Montgomery says. "They were the hallmark of all of our best days and our best weekends." Married to this sun-dappled nostalgia was a keen business sense. They could make a name for themselves, they thought, by going against the knee-length board-shorts trend dominating men's retail at the time. Theirs would be less *Hawaii Five-O* remake and more *Hawaii Five-O* original.

In 2011 the four of them quit their jobs and started selling shorts out of a backpack as they walked the beaches around San Francisco. "People would ask, 'Where'd you get those shorts?' The response was just incredible," Montgomery says. Since then, Chubbies has added swim trunks and collared shirts to its inventory—garments that are "symbolic of a certain freedom and emotion the weekend brings you," he says. Along the way, Chubbies has also added more than \$13 million in venture capital funding from firms including IDG Ventures, Burch Creative Capital, and Lerer Hippeau Ventures, which believe in the selling power of shorts with names like the Khakmeisters (\$49.50) and the Great Chillerinos (\$39.50). There's also the Schwort (\$34.50), shorts made out of sweatpants material that's marketed with the following description, punctuation

be damned: "We'd equate it to swaddling your thighs in a gel-infused down microfiber fleece lamb's wool comforter as you melt into the cushions of a tempurpedic vibrating reclining couch while simultaneously receiving a Swedish massage as you watch 10 straight hours of NFL football while being served platters of tiny cheese cubes."

The late 2000s may have been an anxious period for corporate America, but it was a good time to think about an apparel startup—particularly one focused on laid-back men's clothing. For starters, the demographics were, and still are, favorable. In 1975 the average man got married at 24, according to the U.S. Census Bureau. Today it's 29. Birddogs' target customer is 25, says founder Peter Baldwin: "He's got discretionary income, he's got to buy clothes, and he doesn't have a wife to do it for him."

In the past five years, says market researcher IBISWorld, menswear has been the fastest-growing product category sold online, outpacing groceries, shoes, and electronics. When TheBoutique@Ogilvy, a fashion PR agency, surveyed adult men in January, 53 percent described their style as "basic bro" vs. "practical," "professional," or "rugged." Although many guys still affect a preppy look, they're not going to Brooks Brothers to get it. "If you're trying to reach young men," says Ty Montague, chief executive officer of consulting firm Co:Collective, "adopt the tone and manner of young men, which is by nature irreverent." The brotailers have raided Dad's and Granddad's closets and jettisoned the pretense older brands relied on. It's less high-cheekboned bon vivant on a pheasant hunt, more dad-bod with a can of Tecate.

What brotailers offer is more than just a retail experience. "It's almost like these brands are creating safe spaces where dudes can be dudes," says Heidi Hackemer, founder of marketing agency Wolf & Wilhelmine. This isn't necessarily a positive thing. "We're in this really weird phase of masculinity, where all the rules are shifting," she says. "Everyone is talking about women, and Beyoncé is, like, 'Go kill it, ladies,' and Sheryl Sandberg is leaning in, and guys don't really know how to move forward. You almost see this regression into a safe space, which is the bro cave. I don't think anyone has told the guys what they're supposed to do now."

Chubbies is happy to make suggestions to the citizens of Chubster Nation. Staffers sort through more than 1,000 photos a day that Chubbies die-hards submit through e-mail, Instagram, Facebook, and Twitter in the hopes that theirs will be reposted to the company's social media feeds. The pics provide instant product and marketing insight. "We're so empowered to see what the customer is doing," says Castillo, who dismisses the more ivory-tower methods apparel makers use to figure out the next big trend. "I don't need to shop the world to see that. I can see exactly what he's doing on my phone today."

The company also maintains a network of more than 300 "Chubbies Ambassadors," college students who promote the brand for free gear. On the ambassador application (or "chublication" as it were) Chubbies describes its ideal candidates as "bad*ss shorts aficionados in a sea of confused cargo and man-capri-wearing jabronies." Recently, Chubbies started mailing orders with a free set of vintage baseball cards and a note from Rutherford, along with his cell phone number. "We were all standing there 10 minutes before Preston walked down the aisle for his wedding," Castillo says, "and he gets this call, and he answers it. He says, 'Hey, man, I'm about to get married, so I'm going to need to call you back a little bit later.'"

Business is good. In 2015, Chubbies saw a revenue gain of 50 percent from 2014, and the company says it's on a similar pace this year. There are plans to start making women's shorts (both product directors are women), golfwear, and, possibly, child sizes. "We're seeing a lot more dads among our customers," says Chubbies public-relations chief Kit Garton. The standard operating procedure is to have as much fun as possible, share that fun with customers, and watch the orders for shorts come in. "We're trying to make our friends laugh, bring a little bit of levity to their day," Rutherford says. It's not exactly hiring Bruce Weber to photograph Argentine polo star Nacho Figueras for a Ralph Lauren ad. At Chubbies, the big concern at an afternoon meeting is how many Nerf guns they'll need for an *American Gladiators* tribute video they're planning. **B**



Press a button, and there's the **name and password of your wireless network**, good for when guests come over

The screen displays a **percentage** to tell you how strong your Internet signal is; it also shows you how well the **connection is working** for each device on your network

Starry Station has a **racetrack-shaped touchscreen** instead of the standard rectangular one to make it look less gadgety



SEX UP YOUR WI-FI

Goodbye to the gray brick. By Joshua Brustein

The last time you thought about your Wi-Fi router was probably the day you set it up—or the day it suddenly stopped working. But a startup wants to give us a reason to think about that blinking box beyond when we're cursing it.

Just as Google's Nest is based on the idea that someone could find a thermostat sexy, Starry Station (\$349.99; preorder for April delivery at starry.com) is for people who want something more than a dull, utilitarian router. For starters, it's a bright white aluminum triangle, not a dark gray brick, and it has a touchscreen. "The last thing we wanted to do was design

something that looked like it belonged in a data center," says Don Lehman, the company's head of industrial design.

Starry Station isn't just all looks. There's novelty to its technical approach as well. Standard dual-band routers enable separate Wi-Fi networks, but Starry's software automatically chooses which network is right for your device—be it one designed to carry a data-heavy signal or one with a greater range but less capacity. Usually this has to be done manually, and other routers that promote auto switching often fail at it.

Other startups are working on more consumer-friendly Wi-Fi routers, too. Eero (\$499 for a three-pack; eero.com

and amazon.com, where, based on about 300 reviews, it has 3.9 out of 5 stars) recently began shipping a series of sleek white rectangles designed for positioning around a house. Together they form what's known as a mesh network, which spreads a signal evenly throughout a space. A signal from a single router gets weaker the farther it has to travel.

The question Starry and Eero face is whether all of this is enough to entice people to pay a hefty premium for it, given that there are highly rated routers available for less than \$100. But, hey, at least people will be pondering this and not, How far can I throw this thing? **E**

NORWAY'S SECOND- BEST SHOW

House of Cards? Try *Occupied* instead
By Brad Wieners

To say that Netflix's *Occupied*, a 10-episode political thriller, is more binge-worthy than a program about chopping wood might be setting the bar awfully low. But *National Firewood Night*, a 12-hour documentary that tackles whether to stack split logs with the bark facing up or down, got better ratings in Norway, where both shows were first broadcast. Fortunately for us, *Occupied* translates better over here.

Set in and around Oslo, *Occupied* takes place in a near future in which Norway has ceased drilling for oil and gas to prevent more loss of life and damage from climate change. There's a passing reference to a catastrophic hurricane that precipitated this eco-commitment, but that backstory is mostly evoked in the opening credit montage. Civil wars in the Middle East have choked off oil supplies, and the European Union, thrust into a fuel crisis, backs a Russian plan to take over Norway's former petroleum industry. Fifteen minutes into the pilot, Jesper Berg, the Norwegian prime minister, is taken hostage, and during a short helicopter ride he receives an offer from Moscow he can't refuse: Let us restore North Sea oil production to previous levels, and we'll let you resume your alternative-energy plans. Berg blinks.

If the premise seems a reach, *Occupied* is so well-scripted and finely acted that it's easy to suspend disbelief. Our principals are Berg (Henrik Mestad); his bodyguard, Hans Martin Djupvik (Eldar S. Skar); an enterprising journalist, Thomas Eriksen (Vegar Hoel); and Wenche Arnesen (Ragnhild Gudbrandsen), the terminally ill head of Norway's version of the CIA. More far-fetched than the

geopolitics may be the degree to which the plot depends on Djupvik, who rescues the prime minister, saves the Russian ambassador from assassination, and becomes a double agent. And that's all in the first three episodes.

Jo Nesbo, a member of the same class of Scandinavian noir writers as Stieg Larsson and Henning Mankell, is credited with the idea for *Occupied*. You can think of the show as a lower-body-count 24 meets a higher-subtitle-count *Man in the High Castle*, with elements of *The Girl With the Dragon Tattoo*.

It's tempting to place *Occupied* within the growing niche of "cli-fi," or climate fiction. Thorium power, Berg's alternative-energy solution, is a real thing—a form of nuclear energy that relies primarily on thorite instead of enriched uranium. (It's safer, too; thorium reactors don't melt down.) Yet with its portrayal of an anti-Russian resistance movement—Fritt Norge—and, in particular, a live-video assassination of a Russian, Nesbo appears more inclined toward an allegory about Islamic State. Appropriating its shock tactics, *Occupied* seems on the verge of asking difficult questions about when, or if, terrorism is justifiable as self-defense.

If Nesbo intends a deeper moral inquiry, *Occupied* doesn't manage it, but it does have charm. It's easily one of the best recent series for ogling modern architecture. And the after-hours diversion may well inspire viewers to lead crisper meetings. These Vikings get right to the point. *Occupied* also affirms that the cortado is the coffee bar order of the moment on both sides of the Atlantic. You'll need one, too, the morning after you've stayed up all night finishing the series. **B**

Critical Mass

A random ranking of recent
bad behavior

Most Worst

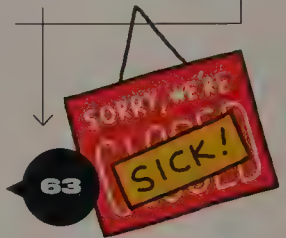


AGAIN, CHIPOTLE?

Just when the fast-food chain thought it might be rebounding from its struggles following E. coli and norovirus outbreaks, it had to temporarily shut down a location outside Boston after four employees got sick.

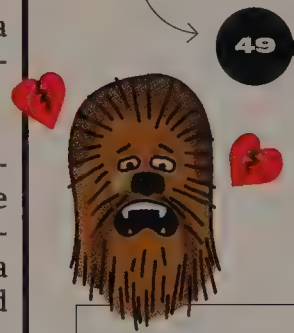
HEAVY METAL

It takes 784,000 quarters to make \$196,000, a calculation authorities had to do after charging a former Brink's security guard with stealing that amount of coin from the Federal Reserve Bank of Atlanta.



HIGH SEAS INTRIGUE

In *The Comeback*, author G. Bruce Knecht alleges that Larry Ellison's Oracle Team USA won the America's Cup in 2013 using an illegal technique called pumping—flapping the yacht's "wing" to help it go faster. The team denies the charge.



FORCED APOLOGY

Internet nerds are freaking out over a scene in *The Force Awakens* in which Leia hugs Rey, whom she's never met, but ignores Chewbacca after—spoiler alert!—Han Solo, the Wookiee's best friend, is killed. Director J.J. Abrams sort of apologized, saying the scene's blocking was "probably" a mistake.



Least Worst

Barrel To Bottle

HARVESTOON BREWERY OLA DUBH 18

Brewed in:
Clackmannanshire,
Scotland
Aged in: Scotch

To make Ola Dubh, the brewery's Old Engine Oil black ale is aged in Highland Park 18-year-old Scotch whisky barrels. It smells like "tar, smoke, nuts, toffee, and tobacco," says Garrett Oliver, brewmaster at Brooklyn Brewery.

The most interesting beers around taste like more than just beer after spending time in casks other spirits once called home. By Carey Jones

BROOKLYN BREWERY IMPROVED OLD FASHIONED

Brewed in: Brooklyn, N.Y.
Aged in: Rye

"Built on the spice notes of a 'winter warmer'—like clove, nutmeg, and cinnamon—this take on the classic cocktail balances bitter gentian root with cherry juice and sugars," says Brennen Wyson, beer aficionado and *Bloomberg Businessweek* copy editor.

"The rye malt gives it an extra zing."

Etc.
pick

DESCHUTES BREWERY THE ABYSS

Brewed in: Bend, Ore.
Aged in: Bourbon,
pinot noir, and neutral oak

"Black licorice, vanilla, and cherry flavors are prominent," Oliver says. "This beer brings an almost cocktail-like sensibility to the fore."

FIRESTONE WALKER BREWING AGRESTIC

Brewed in:
Paso Robles, Calif.
Aged in: French oak,
American oak

"It begins as their flagship Double Barrel ale, then it's transferred to French and American oak barrels for a couple of years," says Kyle Kensrue, general manager at Randolph Beer in New York. "From the barrels, it pulls red berry, toasted oak, and vanilla."

FOUNDERS BREWING KENTUCKY BREAKFAST STOUT

Brewed in:
Grand Rapids, Mich.
Aged in: Bourbon

"One of the best versions of the style," Kensrue says. "In addition to the bourbon barrel character, chocolate and coffee are added for a luscious, complex beauty of a beer."

Woodwork

*Common barrels
to age beer in*

Bourbon: The most popular, Flaherty says, "particularly for darker, higher-alcohol beer styles like stouts, porters, and barley wines." Imparts bourbon's characteristic vanilla-caramel flavor.

New oak: Adds vanilla, coconut, and grassy-floral notes.

Wine: Aging in a used red or white barrel picks up the wine's flavor, and the wood itself can house microorganisms that let the beer ferment further.

Other spirits: Rye, brandy, tequila, rum—brewers experiment with all of these to give a beer a touch of that spirit's flavor, whether subtle or dramatic.

RUSSIAN RIVER BREWING SUPPLICATION

Brewed in:
Santa Rosa, Calif.
Aged in: Pinot noir

"Starting with a brown ale base, it gets all the sourness from critters living in the barrels, then is hit with the addition of cherries," says David Flaherty, author of the Grapes and Grains blog.

CROOKED STAVE SURETTE PROVISION SAISON

Brewed in: Denver
Aged in: Oak

Oak "elevates the citrusy, tart characteristics and lets the complex, almost barnyard-funky character of the yeast develop," Colegrove says.

ALLAGASH BREWING EVORA

Brewed in: Portland, Maine
Aged in: Brandy

"It's bright and citrusy with notes of honey," says Tristan Colegrove, beer director at Haymaker Bar and Kitchen in New York. "The Portuguese barrels lend it some slight oak notes, vanilla, and an anise-like spice."

Channeling Spirits

*Barrel-aged beers mimic
their surroundings*

"Barrel-aged beers have been around for millennia, but recently they've shot up in popularity," Flaherty says. Beer lovers geek out on them for their unique taste profiles. Aging beer in any wood lets it mellow, but aging it in wood that previously held spirits allows it to take on additional flavors that are hard to replicate. "Every barrel is different," he says. "Drink it, and it's gone."



Whatever you type can and will be used against you
By Rebecca Greenfield

Earlier this month, John Cook, the executive editor of Gawker Media, was forced to live out the personal nightmare of the modern, group-chatting professional class. He had to explain in open court why he and his staff had been making penis jokes. “I would characterize it as workplace humor,” he’d said in a deposition taped last year that was played in front of a jury and live-streamed online.

Terry Gene Bollea, aka Hulk Hogan, is suing Gawker for \$100 million over a video the site posted in 2012 featuring the wrestler having sex with the wife of a friend. Included in the evidence are more than 30 pages of Gawker conversations from the work-chat platform Campfire, starting with “we’re about to post the Hulk Hogan sex tape” and devolving into jokes about whether Hogan’s penis was “wearing a little do-rag” and a discussion regarding the color and consistency of Hogan’s “pubes”—and that’s just two pages in.

Since that conversation occurred,

group chat has only become more prevalent in offices, mostly because it cuts down on e-mail. Campfire now has 100,000 daily active users; Slack has 2 million. (Gawker switched from Campfire to Slack in 2014.) Another service called HipChat says billions of messages have been sent using its service.

Workplace chat is often called a digital water cooler, because it’s where co-workers have informal conversations at the office—sometimes about work, sometimes not. “Our normal workplace interactions have moved to digital environments and therefore become permanent in ways that water cooler chat never was,” says Eric Goldman, a professor of technology law at Santa Clara University School of Law.

The very nature of chat—its informality and speed—makes gossiping and joking easy. Slack has features that encourage levity, including a GIF generator and

customizable emoji. So now is a good time to remind anyone at work: Chat like everyone is watching. “Any electronic records that are relevant to a particular claim are discoverable in civil cases,” says Dori Hanswirth, the head of the media litigation practice at Hogan Lovells. “There is no, ‘Well, I was just being funny with my friendly co-workers’ exemption. If it’s out there and gettable, there’s a chance that it will end up in the hands of some legal adversary of your company.”

Multiple lawyers had never heard of Slack, but their advice is platform-agnostic: Never write anything—in any format, to anyone—that you wouldn’t want to end up on the front page of the *New York Times*. “We all say things in the workplace that we don’t want repeated,” Hanswirth says. “But there’s a level of discourse that you may not want to have in writing of any kind.”

Slack lets premium subscribers set custom retention periods for chat records so they self-destruct after a certain amount of time. (For nonpaying subscribers, the messages stay on Slack’s servers indefinitely, although you can manually get rid of them whenever you want.) “This deletion is permanent, and the messages and files are irretrievable,” Slack’s help page warns in bold letters. But that shouldn’t change chatters’ behavior. Lawyers employ an army of people to find information. Plus, you never know when a suit will be filed; companies have an obligation to halt standard destruction policies once a claim is made.

Of course, we all know that we’re not supposed to document dumb, mean, bigoted, or crude ideas. But even in reg-

ulated industries such as Wall Street, where digital communications, including Slack chats, are explicitly saved and monitored, people continue to put the wrong things in writing. In one case, a one-word chat (“awesome!”) effectively

revised an existing contract, costing an e-cigarette maker \$1.2 million.

In a courtroom setting, chats, however tongue-in-cheek they may be, could color how the jury judges the case. “It’s understandable that people will use these platforms for casual conversation,” Hanswirth says. “But sometimes it’s hard to explain to [a jury] that you really were not being serious.” **B**

**“WE ALL SAY THINGS
IN THE WORKPLACE
THAT WE DON’T
WANT REPEATED”**

TALISHA JACKSON

38, senior account executive,
CMD (Construction Market Data)
Group, Norcross, Ga.

Is that one of those
bendy necklaces?
Yes! My co-worker
here had similar
jewelry, and I loved it,
so she got one for me.

VINTAGE

**What does your
company do?**

We provide information
on anything involving
construction—like what
projects are going on in
the U.S. and Canada and
prices of raw materials.

**How do you
pick outfits in
the morning?**

It depends on
the day and the
mood. Most of
the time, my hair
will dictate what
I wear.

Explain how that works.

Sometimes I wear it crinkly,
sometimes curly, and some-
times straight, depending
how cooperative it is. If I put
it in a bun, I'll do a business-
conservative look. However, if
it's curling and falling in all
the right places, it can be
dressed up with some jeans
and a great blouse.

**So you have a
vibe, not a look.**

Yes, that's totally it.
I don't spend a lot
of time getting my
clothes together.
I keep it simple.

TARGET

**Where do
you shop?**

Ninety percent
vintage consign-
ment stores.

**Are those three-
quarter-length
sleeves?**

I love, love, love
three-quarter
jackets. It's really my
thing right now.
I like my arms out.

GUESS

Why?

I'm originally from Ohio,
and the first year I moved
here, I didn't turn on my
heat in the winter. When
it's 50 or 60 degrees
outside, a three-quarter
jacket works just fine. And
then I wear some gloves
that reach up to the cuff.



MELLODY HOBSON

President, Ariel Investments; chairman, DreamWorks Animation SKG

"I studied international relations and spent a lot of time in the library. I loved it. I was very interested in money, because we didn't have a lot of it."

Education

St. Ignatius College Prep,
Chicago, class of 1987

Princeton,
class of 1991

"I got really good grades and did the extra credit. I was that kid. I wanted to be a television anchor."

1976



"For years I traveled with our CEO, John Rogers, everywhere he went. I was pseudo chief of staff. He would hand me things off his desk and say, 'Do it, fix it.' The assignments got more important over time."



Early in her career at Ariel

Work Experience

1991-93

Client services and marketing,
Ariel Investments

1993-94

Vice president for marketing,
Ariel Investments

1994-2000

Senior VP, director of marketing,
Ariel Investments

2000-Present

President,
Ariel Investments

2001-11

Contributor, ABC's
Good Morning America

2009-14

Investor Advisory Committee member,
U.S. Securities and Exchange Commission

2012-Present

Chairman, DreamWorks Animation SKG

2013-Present

Contributor, CBS News

"I immediately knew I'd work here forever. I used to think, How many thousands of times will I walk through this door?"



"Diane Sawyer read an article about me and called. I was in shock. She recognized that we don't have African American women talking about money, and she was my advocate at ABC."



With students from the teen apprentice program After School Matters, 2014



With Starbucks CEO Howard Schultz (left) and former Senator Bill Bradley, 2005



Met husband George Lucas in 2006

"We met at the Forstmann Little Conference in Aspen. I told him I was on the DreamWorks board, and we chatted about the movie business. The next year he said he was coming to Chicago to give a speech and would I be in town? I said I'd love to have dinner."

Life Lessons

1. "Every game is won with patience." 2. "Make yourself indispensable. That way they can never fire you." 3. "Humility goes a long way."



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when you talk face-to-face,
not face-to-website.**

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FOR MANY
AN ACTIVE LIFE
STOPS FAR
TOO EARLY

OUR
SCIENTISTS
WON'T
ACCEPT THAT



By 2050 the world's population over 60 will have doubled to two billion, making age-related illness an even greater challenge for society. That's why we're seeking to help people stay healthier and more active in later life, be it through more targeted treatments for cancer

and cardiovascular conditions, solutions for eye diseases, or ways to keep those with arthritis moving. Because life shouldn't stop at 60 – not by any means. To find out how our innovations are helping to change lives for the better, visit www.bayer.com/ari1193.



Science For A Better Life